



Amb-OS Media, LLC  
AMR-100

Operations Manual  
Revision 45

AMR-100 Firmware 2.36

**08/04/16**

## SUPPORT INFORMATION

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**for support, program downloads, RSS feed information and FAQ**

<http://www.amb-os.com>

**PROGRAM REQUESTS via Amb-OS [Permission Portal](http://www.amb-os.com/permissions)**

<http://www.amb-os.com/permissions>

### **NOTE**

As of this version of software, only one AMR-100 can be controlled by the Amb-OS User Interface software on a single PC. With multiple AMR-100s each AMR-100 needs a separate computer controlling each individual receiver.

### **WARNING**

One AMR-100 can be controlled by multiple Amb-OS User Interface programs on different computers, but without proper precautions, unpredictable results can be experienced.

See the [Amb-OS User Interface manual](#) on how to use multiple computers on a single AMR-100.

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# HARDWARE OVERVIEW

## WARNING

To receive programs on the AMR-100, log in into the Amb-OS [permission portal](http://www.amb-os.com/permissions) (<http://www.amb-os.com/permissions>) to request programs. Without requesting programs, the AMR-100 will not receive any programs.

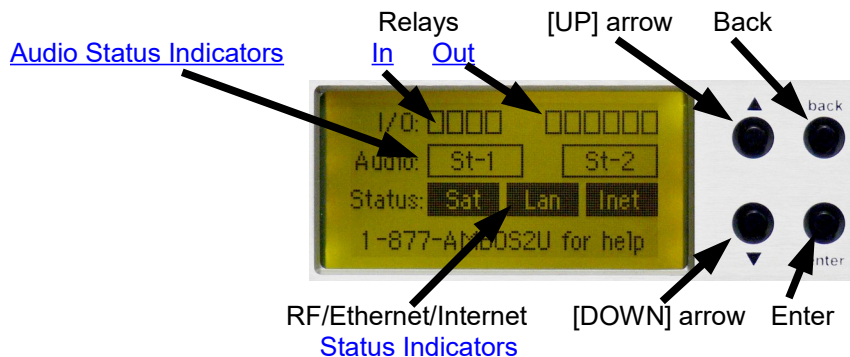
### Package Contents

- 1 – AMR-100 AMB-OS Receiver
- 1 – AC power cable
- 1 – RF Splitter
- 1 – DC Block filter
- 2 – RG-6 Cables
- 1 – Quick Installation Guide

### Controls and Connections

#### Front Panel Description

The front panel display gives the status of the receiver. The main screen shows [relays](#), [audio output](#), and the status of the [RF](#) and [Ethernet/Internet](#) (see [Front Panel](#) section).



#### Front Panel Buttons

To the right of the display are four buttons:

**The [UP] and [DOWN] arrows:** Select different options

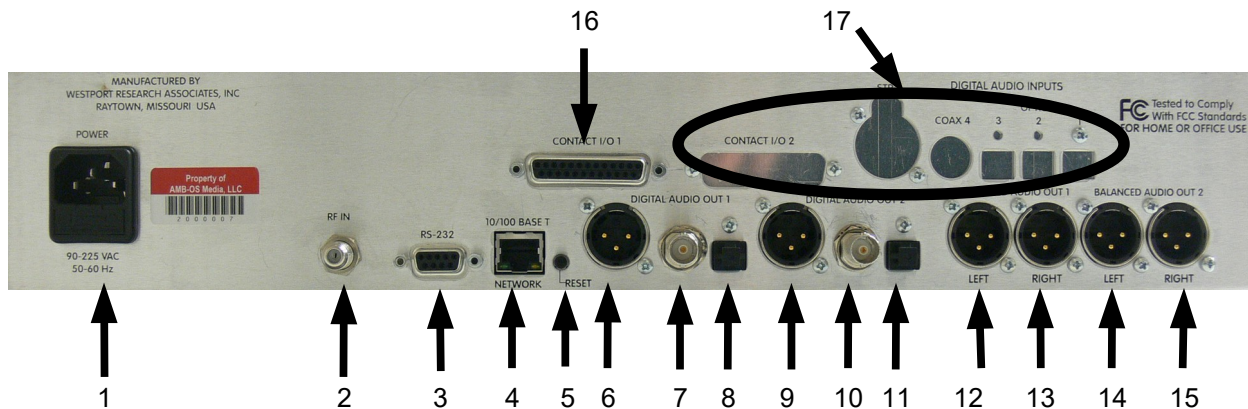
**Back:** Returns to the previous screen and saves changes

**Enter:** Selects and changes different options

Pressing any button from the main screen (shown) changes the display from the status screen to informational and setup screens. Pressing [ENTER] opens the settings screen. Pressing the [UP] and [DOWN] arrows shows the current settings. Pressing [ENTER] again enables changing the settings and [BACK] returns to the previous screen and also saves any changes in some menus.

## Rear Panel Description

### Connections



1. [Power](#) – A standard computer type (IEC) power cable is used
2. [RF](#) – F-type Connector: L-Band input from the satellite antenna
3. [RS-232](#) – 9-pin sub-d female (DTE) connector for serial communication (a modem cable is needed to connect to a computer)
4. [Ethernet](#) – Standard RJ-45 Ethernet network cable connection
5. [Reset Switch](#)

Reboots the receiver without performing a power recycle. It also preserves the [system logs](#).

**WARNING**

**[Resetting](#) the AMR-100 stops the audio playback until the AMR-100 has finished booting.**

#### 6-15. [Audio outputs](#):

Two sets of two stereo analog outputs correspond to the digital outputs. They are listed in order from left to right.

#### 6-8. [Digital – Port 1](#) (outputs the same audio as [port 1](#) analog outputs (12, 13))

6. [AES-EBU](#) – XLR type connector
7. [SPDIF](#) – BNC connector
8. [Optical](#) – standard optical cable

#### 9-11. [Digital – Port 2](#) (outputs the same audio as [port 2](#) analog outputs (14, 15))

9. [AES-EBU](#) – XLR type connector
10. [SPDIF](#) – BNC connector
11. [Optical](#) – standard optical cable

#### 12, 13. [Analog – Port 1](#)

12. [XLR connector](#) – Left channel
13. [XLR connector](#) – Right channel

#### 14, 15. [Analog – Port 2](#)

14. [XLR connector](#) – Left channel
15. [XLR connector](#) – Right channel

16. [Relays](#) – 25-pin sub-d connector (the pin out is described in the [Relay Specifications](#) section)
17. [Expansion relays](#) and the digital input ports were never implemented.

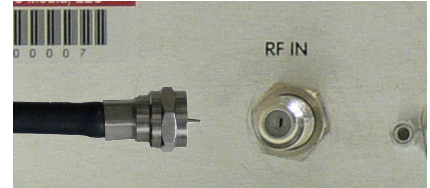


## QUICK START

To begin receiving files, first connect the [RF cable](#) then the [audio outputs](#) (to play back programs) and the [Ethernet cable](#) (to transfer files to a computer) then connect the [power cord](#). The [Installation Section](#) has detailed connection instructions. Request program permissions by using the [permission portal](#) page at <http://www.amb-os.com/permissions>.

### RF

Connect the [RF cable](#) first. If [other equipment](#) uses the same satellite dish as the AMR-100 receiver, verify the unit providing power to the LNB, because only one device may supply power to the LNB. With [multiple devices](#), refer to the detailed instructions and diagrams in the [RF Installation](#) section.



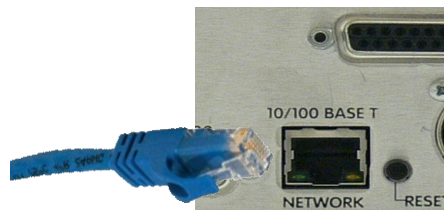
### Audio

The most commonly used audio connections will be the [XLR](#) type low impedance [analog audio](#). Plug the cables into the desired [port](#). A detailed description of the [ports](#) can be found in the [Program Playback](#) section under [Ports and Targets](#). To connect one of the [digital outputs](#), use the appropriate connector. Please go to the [Digital Audio](#) installation section.



### Ethernet Connection

Plug in the Ethernet cable into the 10/100 Base T Network connection on the back of the receiver. The default setting for the [IP address](#) setting uses [DHCP](#). If the network does not use [DHCP](#), then the AMR-100 will not connect to the network or the Internet and result in an [alarm mode](#) after applying power.



### WARNING

**Verify the [IP address](#) and the [DHCP](#) settings. Improperly setting the [IP address](#) can result in duplicate [IP addresses](#) on the network and prevent the AMR-100 from connecting to the network.**

The Ethernet cable can be attached after booting the AMR-100 and [verifying](#) the [network settings](#). However, the front panel will indicate a [problem with the LAN and Internet](#) subsystems until the Ethernet cable is attached with the correct [network settings](#).

### NOTE

**The Ethernet cable can be attached after booting the AMR-100 to [verify](#) the [IP address](#) settings. However, the front panel will indicate a [problem with the LAN and Internet](#) subsystems until the [IP address](#) is set and the Ethernet cable attached.**

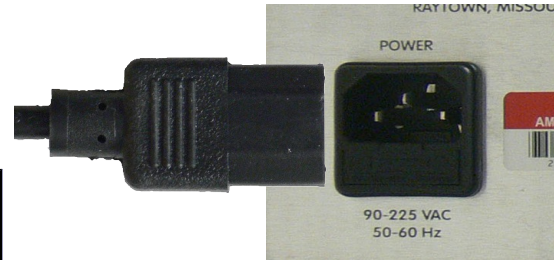
If programs are only played out the [audio ports](#), the [Ethernet](#) connection allows checking the [system statistics](#), setting up a [playlist](#), manually playing programs, and making sure programs arrive error free even when the [RF](#) fails. This virtually guarantees that all programs arrive. It also aids in troubleshooting for Amb-OS technicians to get a problem fixed quickly.

**NOTE**

**It is highly recommended that the AMR-100 have access to the Internet to insure error free reception of files.**

### Power

After connecting the [RF](#), [Audio](#) and [Ethernet](#) cables, connect the AC power cord. Immediately after connecting the power cord, the AMR-100's front panel light turns on and it begins its [boot process](#).



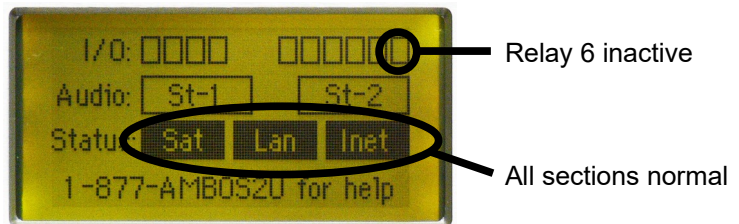
**NOTE**

**The front panel light is only a power indicator light and not a power switch.**

### Boot Display

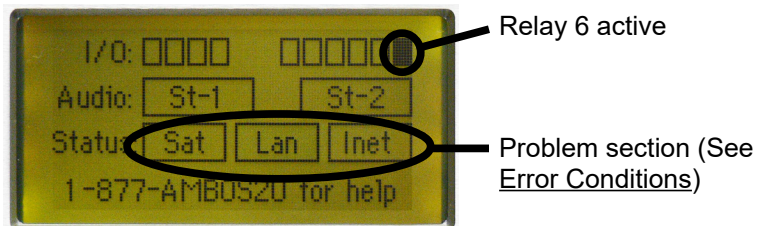
#### Normal

Assuming the [RF](#) was connected to the satellite antenna and the [network settings](#) are correct, the screen should have the status boxes dark and the last box on the top of the screen ([relay #6](#)) clear.



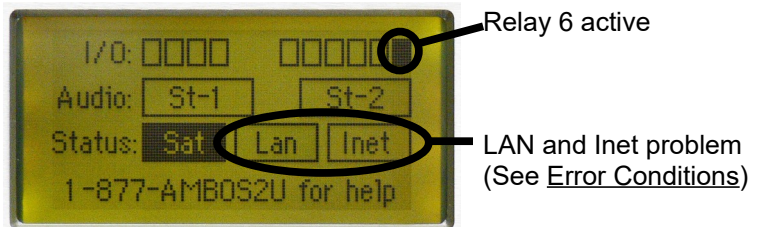
#### Errors

If the last box on the top of the screen ([relay #6](#)) is dark, then one or more of the status boxes will be clear. If [relay #6](#) is dark, check the [error condition](#) section in the [appendix](#).



#### Error if Ethernet Attached after Power

If the [Ethernet cable](#) was not attached before applying power then [relay #6](#) activates (the box becomes dark). The [LAN and Internet](#) subsystems produce and [error condition](#). [Check](#) and [set](#) the [IP address](#), verify the internal network is working and attach the [Ethernet cable](#).



# GENERAL FUNCTIONAL DESCRIPTION

## File Reception

The AMR-100 receiver does not receive programs in a real time audio transmission on a schedule set by the service provider that must be played or recorded at the time the program is sent. The AMR-100 receives programs as audio files sent via a satellite RF carrier faster than real time and stored on an internal hard drive.

The [Ethernet](#) connection allows the AMR-100 to insure error free program reception. By connecting the receiver to the Internet, it communicates back to the [uplink server](#) to verify a program and retrieve missing packets or finish downloading. Thus an interrupted carrier from the satellite feed does not prevent a program from being successfully received.

### WARNING

Without an Internet connection to the AMR-100, programs will not be received if the [RF system](#) fails.

### NOTE

In order to receive files, use Amb-OS [permission portal](#) to request program permissions (<http://www.amb-os.com/permissions>).

## Playback

Programs can be [scheduled](#) to play for recording or direct to air through a [playlist](#) after successfully receiving a program. Playing a program with a [playlist](#) sends the program out the [analog](#) and [digital ports](#) as a “live” program to record or air. Please see the [Amb-OS User Interface](#) or the [Stand Alone Playlist Editor](#) to create a [playlist](#). Download both programs and the manuals at <http://www.amb-os.com/support.html>.

## Transfer

Programs can be transferred from the AMR-100 directly to an automation system or to any computer on the network. Transfers can be done immediately after a program arrives or they can be [scheduled](#). Please see the [Amb-OS User Interface](#) to transfer programs. Download the Amb-OS User Interface manual at <http://www.amb-os.com/support.html>.

### NOTE

An Internet connection to the AMR-100 is not necessary for the AMR-100 to operate. However, it is required to transfer programs.

## Program Deletion

The AMR-100 automatically deletes programs at a time set by the program provider. The program producer specifies the deletion date in the Cart Chunk data of the program.

## **Live Streams**

### **Live programs**

Live programs come through the AMR-100 just like the Wegener Unity® 4000. The AMR-100 receives programs sent from the satellite and plays them out an [audio port \(target\)](#) on the [back](#) of the AMR-100. Because of the ability to address specific receivers for programs, the AMR-100 has to have permission to receive a live program. The live programs for which the ARM-100 has been given [permissions](#) are listed in [Amb-OS User Interface](#) software. The [statistics](#) page on the [HTML Interface](#) lists the number of live programs for the AMR-100.

Live programs are sent to the [TMAP target](#), which is assigned locally (see the [Target Maps](#) section for the description). The [TMAP target](#) can be changed using the [Front Panel](#) or through the [HTML Command Interface](#).

### **Classic DVB PIDs**

The AMR-100 can also play the programs carried on the Wegener Unity® 4000. These are the programs referred by the three alphanumeric designators as programs or networks (SR1, LF1, etc.). This function mainly provides emergency service should the Wegener Unity® 4000 need repair and not a permanent replacement for the Wegener Unity® 4000.

To keep protected content secure, the AMR-100 receives permission decode a channel. To any Wegener Unity® 4000 channels on the AMR-100, contact the network and request permission to carry the channel on the AMR-100. Once AMR-100 receives permission from the Amb-OS network, The AMR-100 will decode that channel for the length of time the given by the network.

### **Internal Clock**

The internal clock is set by the GPS time standard and can automatically adjust for [Daylight Saving Time](#). The [local time zone](#) can be set in the [Date Menu](#). or in the [HTML Command Interface](#).

Because the clock is accurate, a [relay \(#5 or #6\)](#) can be used to keep the local clocks in [sync](#). The time sync (see [Clock Interval](#) section) can be set for any minute and second. The default [relay](#) is [#5](#).

### **Alarm**

When an [internal system fails](#) the AMR-100 closes [relay #6](#) and the failing subsystem box clears. This can be disabled or the relay changed. An alarm (aural or visual) can be attached to the [relay](#) to indicate a fault.

## Emergency or “one off” program arming

To be able to receive an emergency or a special “one off” program (indicated by an “\*” in the upper left corner).

[TMAP7](#) must also be [assigned](#) to a physical [Target](#) and not used as a target in a [playlist](#).

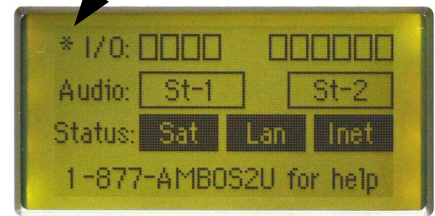
**Enabled (“\*” on screen):** Hold the [BACK] button until the “\*” appears in the upper left corner. The [TMAP Arming](#) command in the [HTML Interface](#) can enable or disable this feature.

This indicates whether the AMR-100 has been enabled to receive the Emergency or “on off” program broadcast on [TMAP7](#). To receive these broadcasts, [TMAP7](#) must have an assigned [audio port](#) and the “\*” must be visible on the screen. The status of [TMAP7](#) can be seen with the other [TMAP](#) assignments when looking at the [System Statistics](#) from the [HTML Interface](#).

**Disabled (“\*” not on screen):** Press and hold the [BACK] button until the “\*” disappears in the upper left corner. The [TMAP Arming](#) command in the [HTML Interface](#) can disable or enable this feature.

If the Emergency Message is not enabled, the AMR-100 will not receive special or emergency broadcasts regardless of whether [TMAP7](#) has been mapped to an output.

“One off” Indicator



# INSTALLATION

## ***RF***

The following are provided to connect the AMR-100 to the satellite antenna.

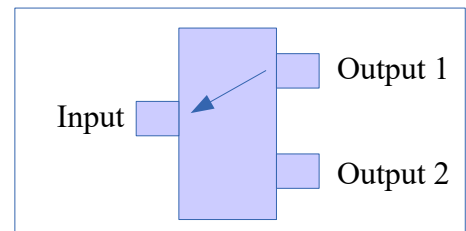
- 1 – RF Splitter
- 1 – DC Block
- 2 – RG-6 cables

With just the AMR-100 using the antenna, connect the RF cable directly to the AMR-100. With an [additional receiver](#) using the antenna, use the DC block on one receiver to allow the other receiver to supply power to the LNB.

The DC Block included with the receiver blocks the DC power to the LNB and used when [more than one device](#) uses the satellite antenna, because only one unit can provide DC power to the LNB. All other units must have the DC power turned off or have the DC block installed. The splitter provided with the AMR-100 allows power only through one port and blocks the DC through the other port. The side that passes the DC voltage has an arrow on it.

The “Input” and “Output” labels refer to the input to the splitter from the antenna and the outputs of the splitter to the receivers.

The splitter illustration shown has an arrow from “Output 1” to the “Input” indicating “Output 1” passes the DC voltage to the LNB and blocks the DC from “Output 2.” The receiver providing power to the LNB should be connected to “Output 1” and the “Input” comes from the LNB. As a safety precaution, put the DC Block on the receiver that does not supply power. Thus, the RF connector of the receiver connected to “Output 2” should have the DC block on its RF connector and the coax cable connected to the DC Block and then to “Output 2.”



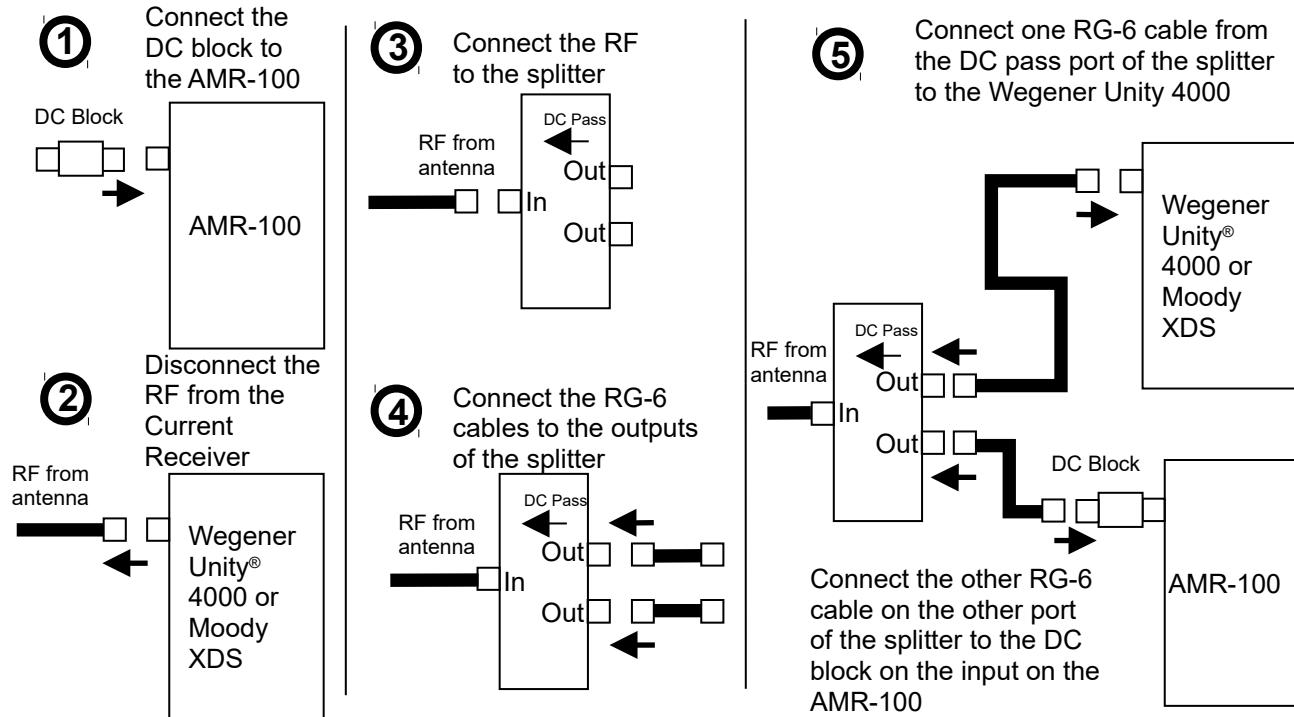
To connect the RF to the AMR-100 if [more than one](#) additional satellite receiver is connected to the satellite antenna or if the antenna’s LNB is being powered from an outboard power supply, refer to the instructions in [RF with multiple receivers](#). If the DC power to drive the antenna’s LNB comes from the Wegener Unity® 4000 or Moody XDS, it can continue to supply power, but install the supplied two port splitter following the instructions below.

## **WARNING**

**Shorting the center lead of the RF cable to the shield can damage the receiver.**

## RF with 1 Wegener Unity® 4000 or Moody XDS receiver

1. Install the provided DC Block on the AMR-100 receiver's RF connector.
2. Disconnect the RF antenna cable from the Wegener Unity® 4000 or Moody XDS receiver.
3. Attach the RF cable from the antenna to the input side (marked "IN") of the splitter.
4. Connect one of the supplied RG-6 cables to the DC pass output port of the splitter (marked OUT and has a diagonal line pointing to the input) and the other RG-6 cable to the DC block output (marked OUT with no line).
5. Connect the of DC pass output RG-6 cable to the Wegener Unity® 4000 or Moody XDS receiver RF connector and connect the other RG-6 cable to the DC Block (previously installed in Step #1) RF connector on the AMR-100.



To have the AMR-100 to provide power to the LNB, merely install the DC Block on the Wegener Unity® 4000 receiver and swap the RG-6 cables coming from the splitter. Remember, in order for a receiver to power the LNB through the supplied splitter it must be connected to the power pass port (see #4 above). It does not matter which one supplies power, but the unit that does not supply DC power should have the DC Block installed and use the DC block output port on the splitter.

### WARNING

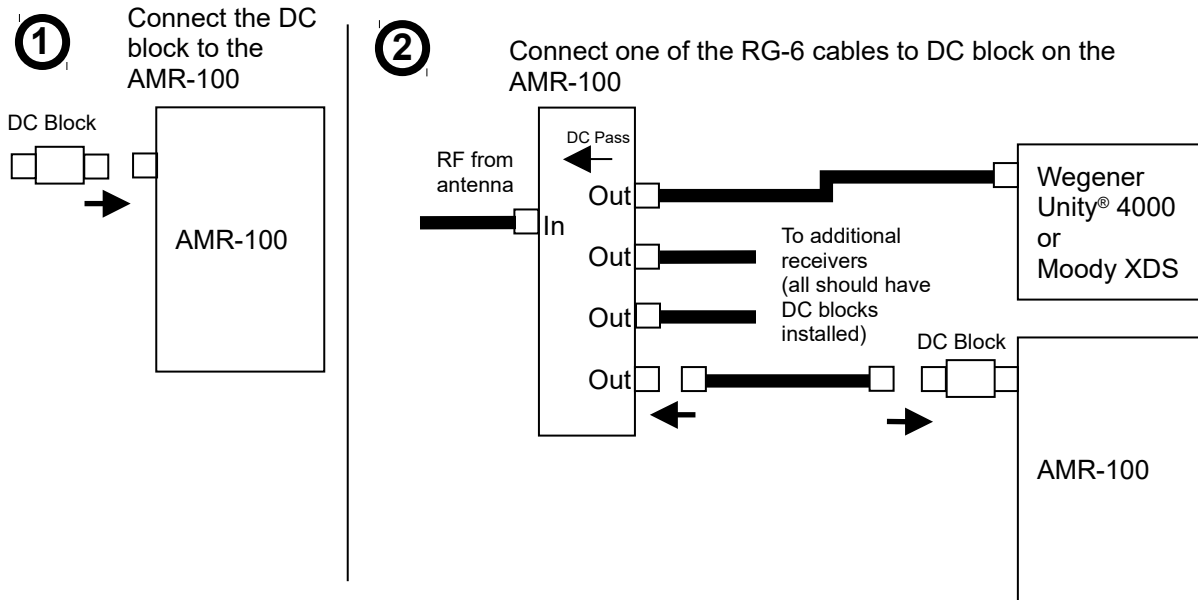
**Only one receiver can supply power to the LNB. If neither receiver has the power blocked by not installing a blocking splitter or DC block, one or both the the receivers could be damaged.**

## RF with multiple receivers

### Using a Multiple Port Splitter with an open port

With multiple receivers (one or more Wegener Unity® 4000 receivers and a Moody XDS receiver or other receivers) and an open port on a multiple port splitter, install the AMR-100 to the open port per the following instructions:

1. Install the provided DC Block on the AMR-100's RF connector.
2. Connect one of the provided RG-6 cables between the AMR-100 RF connector (with DC Block installed) and an open port of the multiple port splitter.



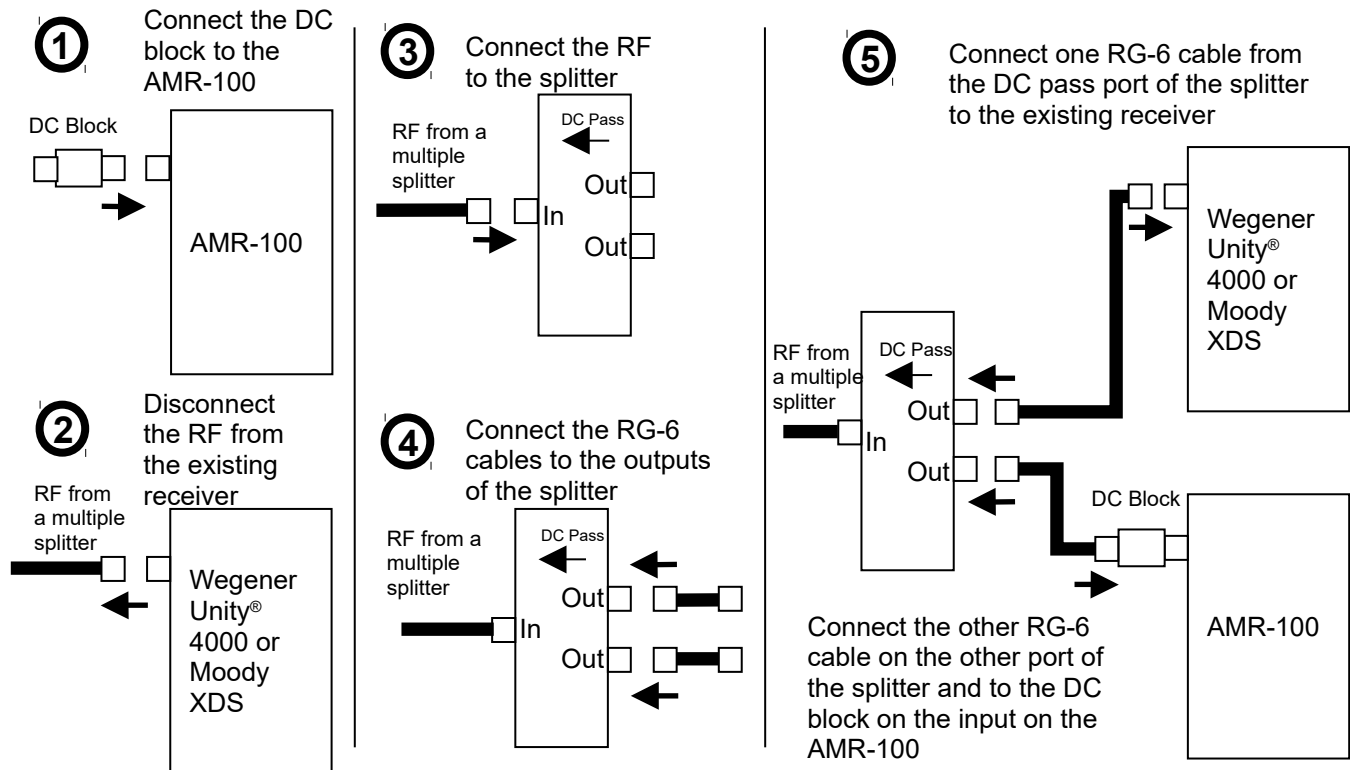
If no open port exists use the instructions in [Using Multiple Splitters](#).



## Using multiple splitters

With more than one satellite receivers connected to the satellite antenna and no open splitter ports are available, install a splitter before one of the receivers.

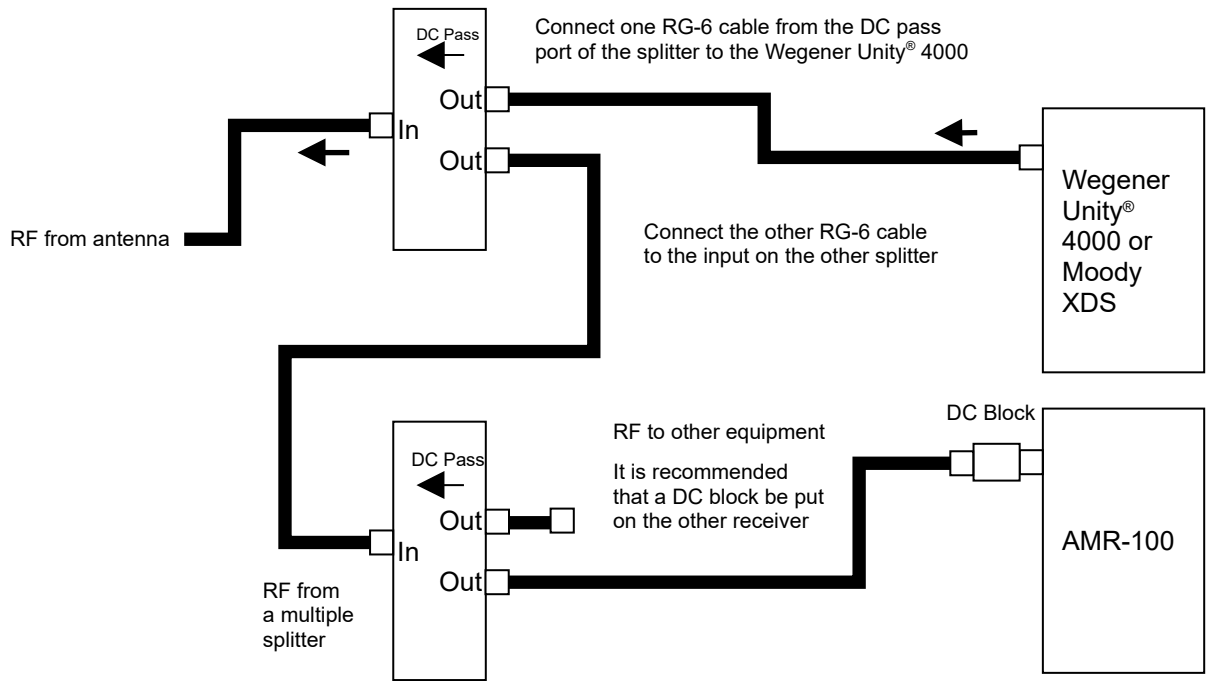
1. Install the provided DC Block on the AMR-100 receiver's RF connector.
2. Disconnect the RF cable from one of the receivers.
3. Connect the RF cable from the other receiver to the "Input" port of the new splitter.
4. Connect the provided RG-6 cables to the "Output" ports of the splitter.
5. Connect the cable that passes the DC to the previous receiver and connect the other cable to the DC block on the AMR-100 (installed in Step #1).



### NOTE

Each splitter added to the RF chain reduces the overall signal to all the receivers.

# Completed Connection Using Multiple Splitters



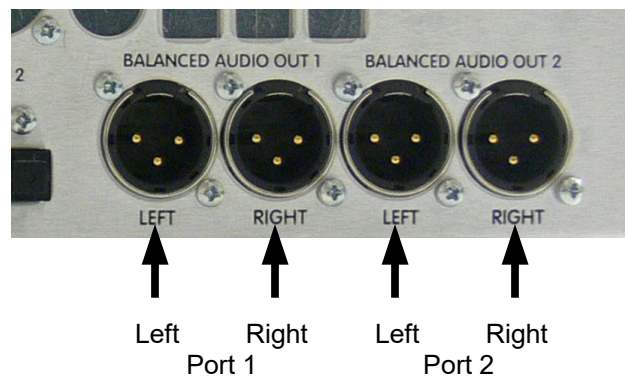
## Audio

Audio comes out either Port 1 or Port 2. Both ports have two [analog](#) outputs (left and right) and three types of [digital](#) ports (AES/EBU, SPDIF – BNC and Optical). The left and right channel of the [analog ports](#) can be addressed separately and have different audio programming on each of them. The [digital](#) ports always have the same audio as the [analog](#) ports and cannot be addressed independently.

The AMR-100 uses [targets](#) to address each [analog](#) output.

## Analog

The analog audio connectors use standard XLR connectors. Each of the two ports can be played in stereo (2 stereo ports), all mono (4 mono ports) or mixed (1 port stereo and the other 2 mono channels).

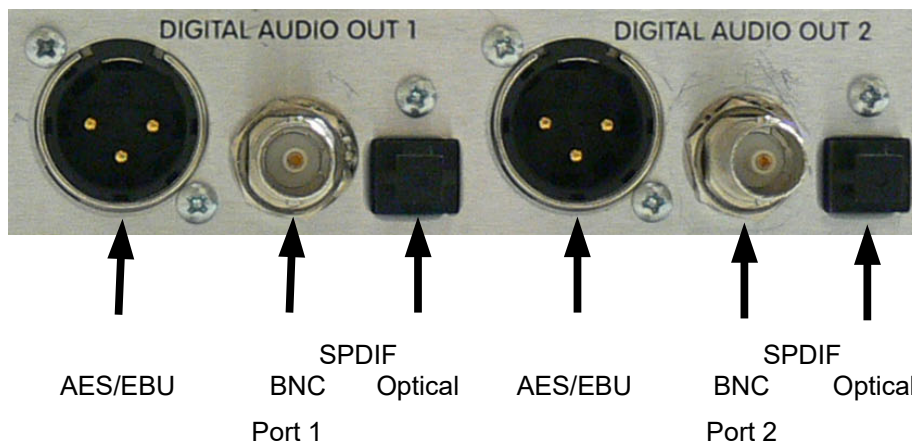


XLR Pinout:

- Pin 1: Ground
- Pin 2: Low
- Pin 3: High

## Digital

The digital connectors correspond to the analog ports 1 and 2. Each digital output has three different types of connectors (AES/EBU, BNC-SPDIF, and Optical). The digital ports have the same audio as the corresponding [analog port](#). The digital outputs use a 48K data rate.



When playing audio as mono out the left or right side only, the digit ports also output the audio on the appropriate side.

## Ethernet

### Description

The [Ethernet connection](#) takes a standard Cat-5 or better network cable with RJ-45 connectors. Programs can be transferred automatically to the an automation computer and, by allowing the AMR-100 to connect to the Internet, programs arrive error free. If a program loses some packets during transmission or if an entire program is missed, the AMR-100 communicates to the [uplink server](#) to retrieve the missing packets and restore the program. This virtually guarantees no missing programs. An Internet connection is required to repair corrupted programs.

#### WARNING

**If the AMR-100 does not have an Internet connection, programs can be missed.**

To [schedule program playback](#), [playlists](#) need to be created and the Ethernet connection allows the [playlist](#) to be uploaded to the receiver. Use the [Amb-OS User Interface](#) or the [Stand Alone Playlist Editor](#) from the [Amb-OS support](#) page (<http://www.amb-os.com/support.html>).

#### NOTE

**The Ethernet is not required to schedule playback events, but if it is not connected, a [playlist](#) has to be generated by an Amb-OS technician and sent to the receiver over the satellite. Send the schedule requirements to [support@amb-os.com](mailto:support@amb-os.com).**

### Setting the IP address

The AMR-100 comes with the [DHCP](#) setting to “Yes” so the AMR-100 has a [dynamic IP address](#) set from the network gateway. The system can operate with a [dynamic IP address](#), but if the gateway changes the [IP address](#) of the AMR-100, the [Amb-OS User Interface](#) needs to have its settings changed to continue transferring programs. To avoid this problem, use a [static IP address](#). Change the [DHCP](#) setting to “No” and modify the [IP address](#), [gateway](#) and [netmask](#). The local network configuration may also require a [static IP address](#).

#### WARNING

**The [IP address](#) of the receiver should be set to something compatible with the local network. Make sure the [IP address](#) is set outside of the [DHCP](#) pool and no other devices use that IP address.**

Setting a [static IP address](#) can be done by the [front panel](#) or through the [HTML Command Interface](#). With the correct [IP address](#), default [gateway](#) and [subnet mask](#) entered, the [Amb-OS User Interface](#) can create [playlists](#) and transfer and play programs.

#### WARNING

**When entering an [IP address](#) manually, the [subnet mask](#) and the default [gateway](#) may also have to be set to maintain network functionality.**

## *Serial Port*

### **Description**

**General Use:** The RS-232 serial port receives [text commands](#) to [trigger](#) programs to play out the [analog ports](#).

#### **NOTE**

**The AMR-100 does not send any information out the serial port for troubleshooting or diagnosis**

**Technical:** The RS-232 serial port connections

- Three wire modem cable (transmit, receive and ground)
- Standard 9 pin D type connector
- Software control (XON/XOFF)
- Rate: 9600, 8, 1, None (cannot be changed)
- Pinout
  - Pin 2 – Receive
  - Pin 3 – Transmit
  - Pin 5 – Ground

### *Relay Specifications*

#### **Input Closure Specifications**

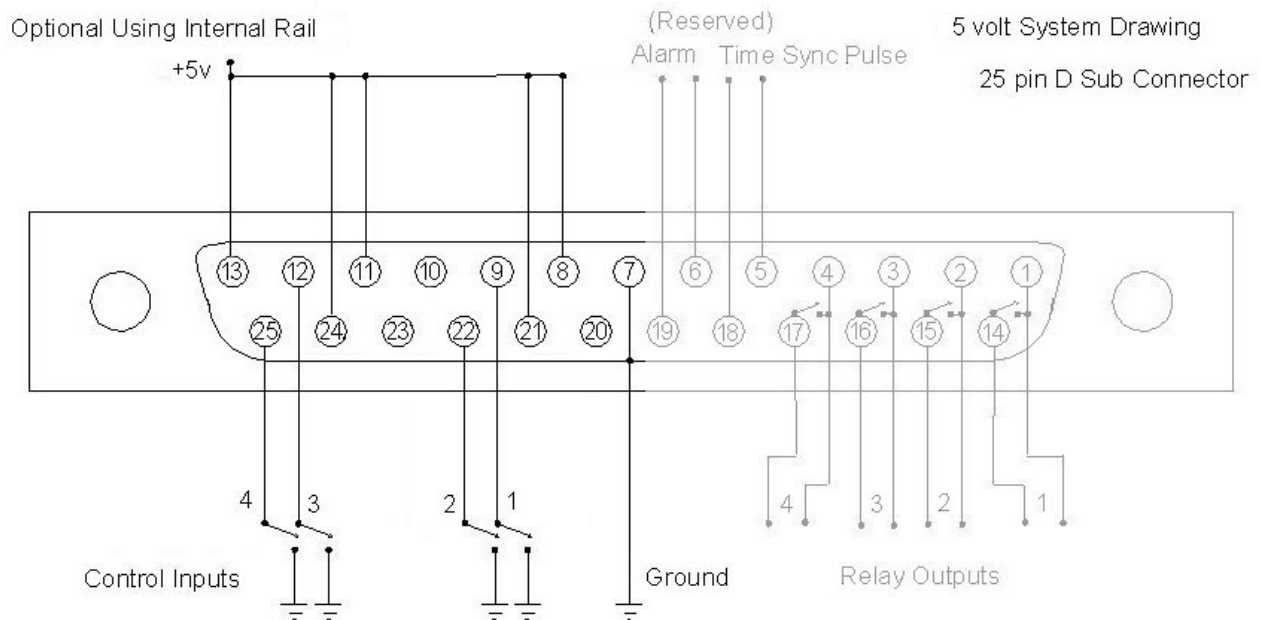
Tie pins 8, 21, 11 and 24 to a pull-up voltage (the internal rail voltage, pin 13, or an external voltage). The other side of the input closures get shorted to ground (pin 7 or the shield) to create an input closure.

Connections

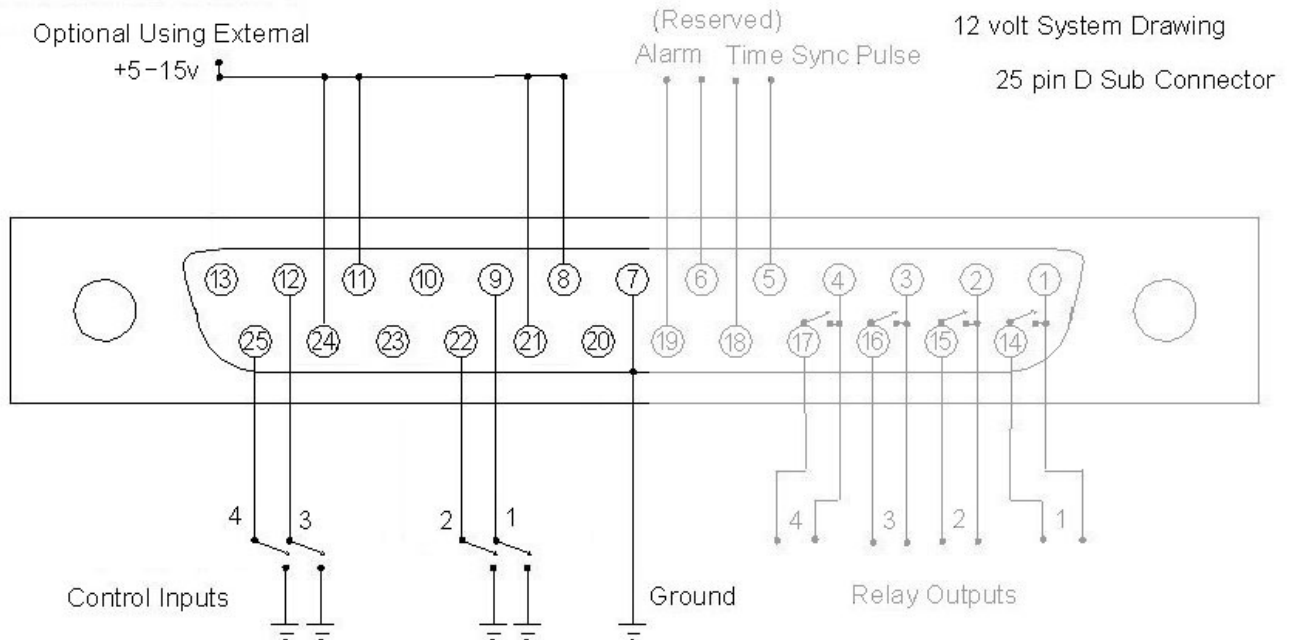
- #1 – Pin 8 is pulled up and pin 9 shorts to ground for a closure
- #2 – Pin 21 is pulled up and pin 22 shorts to ground for a closure
- #3 – Pin 11 is pulled up and pin 12 shorts to ground for a closure
- #4 – Pin 24 is pulled up and pin 25 shorts to ground for a closure

## Input Relay Wiring

The following diagram shows the use the internal +5V pull-up source connected to pin 13.



The following diagram shows the use of an external pull-up source. Pin 13 is not connected to anything and the external voltage source connects to pins 24, 11, 21 and 8.



## Output Relay Closure Specifications

Output relay closures are “Form A” relays and act as a SPST switch.

### Connections

- #1 – Pin 1 and 14
- #2 – Pin 2 and 15
- #3 – Pin 3 and 16
- #4 – Pin 4 and 17
- #5 – Pin 5 and 18 (defaults to the “[Time Sync](#)” pulse)
- #6 – Pin 6 and 19 (defaults to the “[Alarm](#)”)

### Technical specifications

- Non-polarized (either pin can be connected to positive or ground)
- Max voltage: 90V
- Max current: 400ma continuous

The time sync pulse settings are under the [Clock Interval](#) settings section.

The [alarm relay](#) (#6) closes on the following conditions:

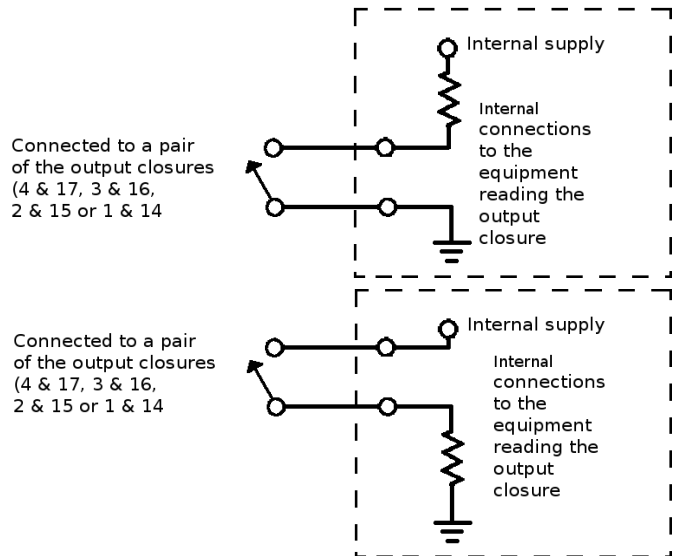
#### RF problems

- Loss of RF
- Shorted LNB

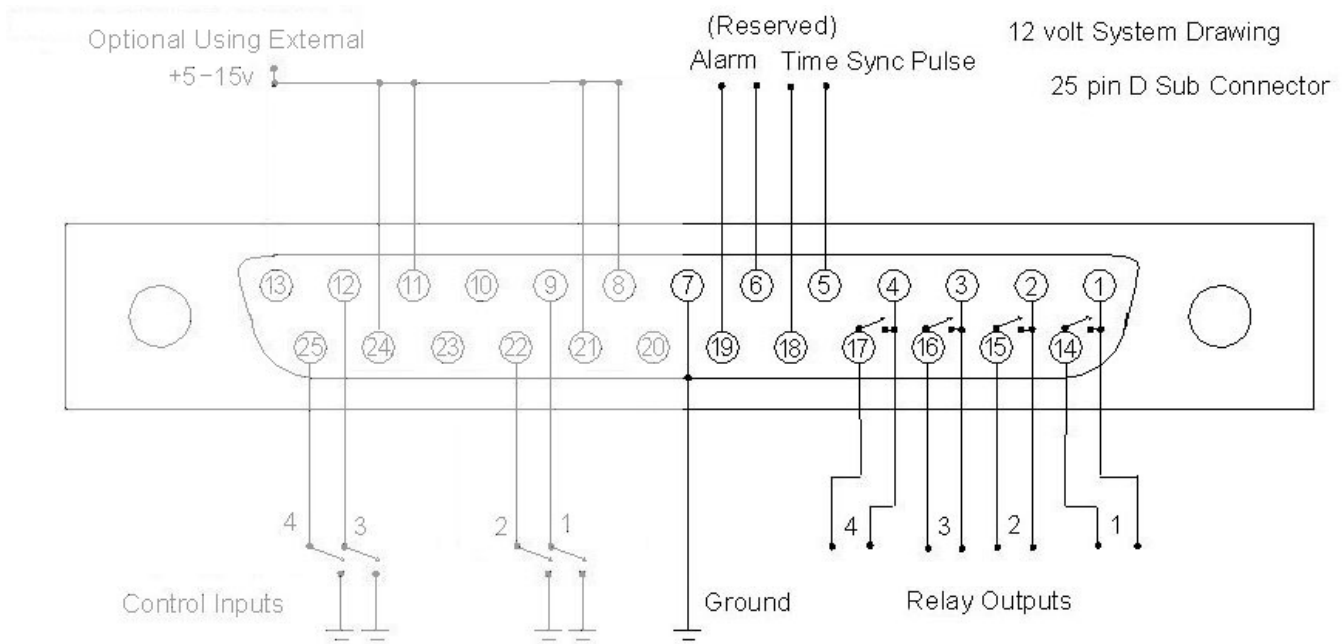
#### Network problems

- No [Ethernet](#) connection
- No connection to the [AMB-OS server](#)

The system [alarm](#) setting is in the [IP Address Submenu](#).



## Output Relay Wiring



# OPERATIONS

## *Relay Description*

### General Information

The [output relays](#) can be customized to specific needs, but misusing this feature causes unexpected results. The wiring for the [relay closures](#) can be found in [Relay Specifications](#) and the assignment of relays can be found in [Closure Map](#) section.

[Output relays](#) can be sent by program providers and be used when playing programs to interface with an automation system. The AMR-100 has six [output relays](#). Four are used for programming functions and two are assigned to reserved functions. Use relays #1 through #4 for general programming use. [Relays #5 \(clock sync pulse\)](#) and [#6 \(fault indication\)](#). [Relay #5](#) and [#6](#) can be used for programming, by [disabling their default function](#).

### Reserved Relays #5 and #6

#### *Time Sync by Relay #5*

To keep station clocks synchronized, a time pulse can be used from the AMR-100. Every hour [relay #5](#) closes for one second as a [time sync pulse](#). This can be at any minute and second of the hour (HH:00:00 or HH:54:45). Set sync pulse through the [font panel menu \(Clock Interval\)](#).

#### *Fault Indications by Relay #6*

By default, four fault conditions are monitored that can activate [relay #6](#):

1. [RF signal too weak](#) or lost
2. [LNB shorted](#)
3. [Ethernet connection](#) to the local network is lost
4. [Internet connection](#) to the uplink server is lost

When any of these four conditions happen, [relay #6](#) triggers and the status box of the failing subsystem(s) clears. See the [Error Conditions](#) in the [Appendix](#).

### NOTE

**Both the Time Sync and the Alarm relays can be disabled or reassigned.**



## Program use of Relays #5 and #6

[Relay #5](#) and [#6](#) can be used for programming functions if they have been disabled for [time syncing](#) or [alarms](#) or be reassigned to either [time syncing](#) or [alarms](#).

### Examples

Available <a href="#">Program Relays</a>	State of Relay <a href="#">#5</a>	State of Relay <a href="#">#6</a>
1-4	Enabled for <a href="#">time syncing</a>	Enabled for <a href="#">alarms</a>
1-4	Enabled for <a href="#">alarms</a>	Enabled for <a href="#">time syncing</a>
1-5	Disabled for <a href="#">time</a> and <a href="#">alarms</a>	Enabled for <a href="#">alarms</a>
1-5	Disabled for <a href="#">time</a> and <a href="#">alarms</a>	Enabled for <a href="#">time syncing</a>
1-4, 6	Enabled for <a href="#">time syncing</a>	Disabled for <a href="#">time</a> and <a href="#">alarms</a>
1-4, 6	Enabled for <a href="#">alarms</a>	Disabled for <a href="#">time</a> and <a href="#">alarms</a>
1-6	Disabled for <a href="#">time</a> and <a href="#">alarms</a>	Disabled for <a href="#">time</a> and <a href="#">alarms</a>

Do not use [Relays #5](#) or [#6](#) to send closures to automation systems if either [relay](#) is still assigned to [time syncing](#) or [alarms](#). With a program function assigned to either [relay #5](#) or [#6](#) and either one still has the [time syncing](#) or [alarms](#) function assigned, when a program provider sends a command to close one of them it would set the time or trigger the alarm. Use the [Relay Map](#) settings to change the function from [relays #5](#) and/or [#6](#).

### WARNING

[Relays #5](#) or [#6](#) must not be used for programming functions without disabling [clock syncing](#) or the [alarm](#) functions to prevent the AMR-100 from producing unpredictable results. The [Relay Map](#) does not change automatically when using the default [alarm](#) or [clock syncing](#) relays.

## Closure Map

### Closure Descriptions

To have a consistent naming conventions for program producers, sixteen different functions can be assigned to a [relay](#). When sending closure commands for live programs, the originator uses the [closure definition](#) to determine when to start and end a program and when to start and end a break. Different functions can be assigned to the same [relay](#). For example, the program start and end could be assigned to [relay #1](#). Then the first time the [relay](#) activates the [relay](#) responds and the automation system knows the program started. The next time the [relay](#) activates, the automation system knows the program stopped.

If the [Closure Map](#) has no relay assigned it (None), the command is ignored.

The [Closure Table](#) lists the functions and short hand names used by program providers.

### NOTE

The closure map cannot use [Relay #6](#).

## Closure Default States

The state of the [relay](#) determines what happens when a command is sent. When a program sends a command to the [relay](#), here is what happens with each state.

Command	Result
Off (opens relay)	If it was on (closed), it turns off (opens). If it was off (open), the <a href="#">relay</a> stays off (closed).
On (closes relay)	If the <a href="#">relay</a> was off (open), the <a href="#">relay</a> turns on (closes) and stays on (closed) until it receives the off (open) command. If it was already on (closed), then it stays on (closed).
Pulse (closes, then opens relay)	The <a href="#">relay</a> turns on (closes) for one second and then turns off (opens). If the <a href="#">relay</a> was on (closed), it turns off (opens) one second after receiving the command.

The Closure Table lists the default settings for each [relay](#).

## Closure Table

The following table describes the default mapped [relays](#) used by program providers.

Relay names and Default assignments:

Descriptions	Name	Relay #	Default State – Off, Pulse, On
Program Start, Port 1 Left:	P1LS	None	Off
Program End, Port 1 Left:	P1LE	1	Pulse
Break Start, Port 1 Left:	B1LS	None	OFF
Break End, Port 1 Left:	B1LE	2	Pulse
Program Start, Port 2 Left:	P2LS	None	Off
Program End, Port 2 Left:	P2LE	3	Pulse
Break Start, Port 2 Left:	B2LS	None	Off
Break End, Port 2 Left:	B2LE	4	Pulse
Program Start, Port 1 Right:	P1RS	None	Off
Program End, Port 1 Right:	P1RE	None	Off
Break Start, Port 1 Right:	B1RS	None	Off
Break End, Port 1 Right:	B1RE	None	Off
Program Start, Port 2 Right:	P2RS	None	Off
Program End, Port 2 Right:	P2RE	None	Off
Break Start, Port 2 Right:	B2RS	None	Off
Break End, Port 2 Right:	B2RE	None	Off

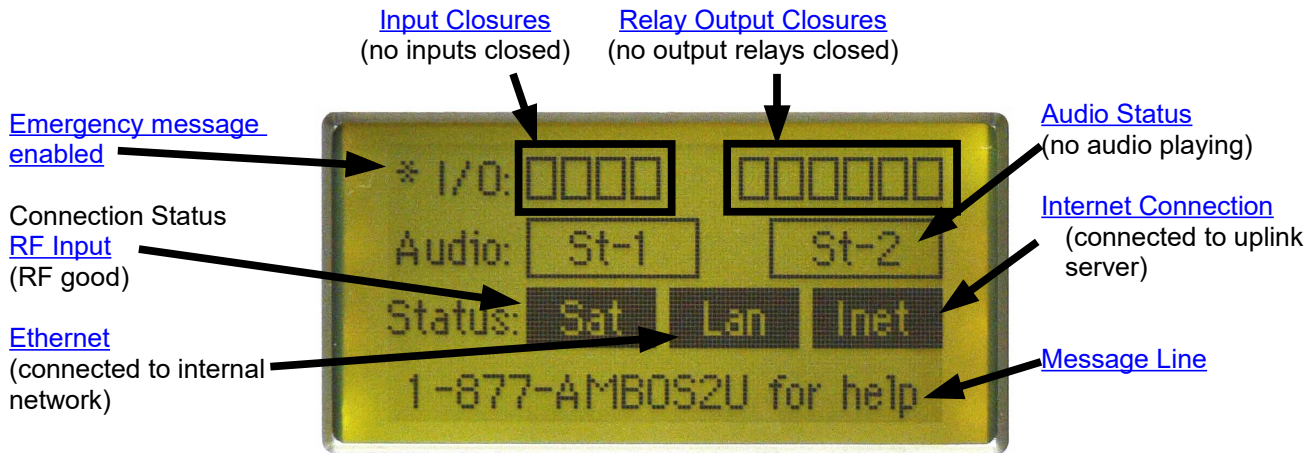
When assigning functions to specific [relay](#) closures, remember that the “Left” assignment should be used for stereo programs. Thus, playing a program out (live or prerecorded) [port](#) 1 in stereo or out [port](#) 1 in mono on the left channel, use the “Left” assignment. When playing a mono program out the right channel of a [port](#), use the “Right” assignments.

The intent of the [relay mapping](#) is to allow assigning a [relay](#) to a specific [port](#). For example, to have a [relay](#) #2 close at the end of programming material when getting live programs on [port](#) 1, then [map](#) P1LE to [relay](#) #2.

Setting the [relay mapping](#) is done in the front panel menu under the [Closure Map](#) section.

## Front Panel Description

### Display



### Emergency Message or "one off" Program

**Enabled** ("\*" on screen): This indicates whether the AMR-100 has been enabled to receive the Emergency or "on off" program broadcast on TMAP7.

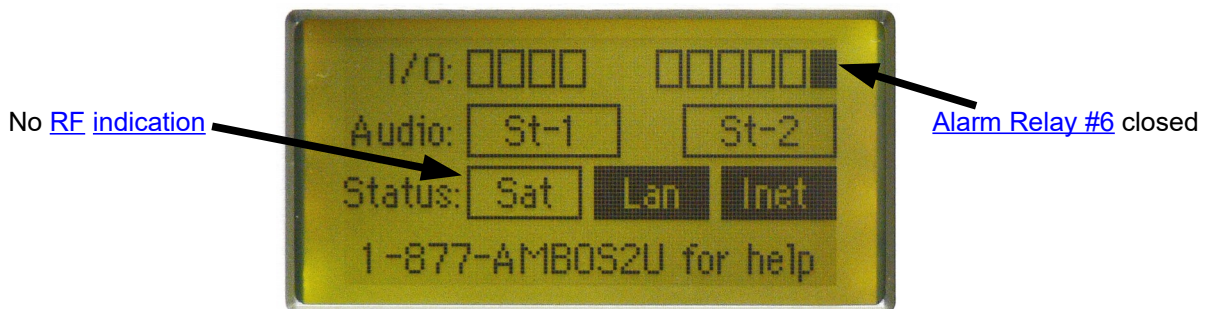
To enable the Emergency or "on off" program, press and hold the [BACK] button until the "\*" appears in the upper left corner of the screen or use the TMAP Arming command in the HTML Interface.

**Disabled** ("\*" not on screen): If the Emergency Message is not enabled, the AMR-100 will not receive the Emergency or "on off" program.

To disable the Emergency or "on off" program, press and hold the [BACK] button until the "\*" disappears in the upper left corner of the screen or use the TMAP Arming command in the HTML Interface.

**Closure Indicators:** The small boxes at the top of the screen indicate an input closure or a relay output closure. The group of four boxes on the left display the input closure and the group of six boxes on the right display the output closures. A clear box means the input closure or output closure is open. A black box means an input closure or output closure is closed.

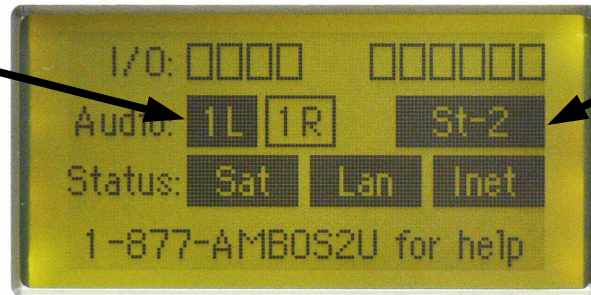
Alarm indication showing alarm closure #6 closed.



**Audio Status Indicators:** On power-up, the two boxes under the relay indicators labeled “St-1” and “St-2” refer to [targets T1 and T2](#). At first boot up, they should be clear, because no audio is playing. When black, it means audio is playing. The boxes split into individual boxes when mono programs play out a [port](#) and are labeled “1L” and “1R” or “2L” and “2R.”

Audio Status

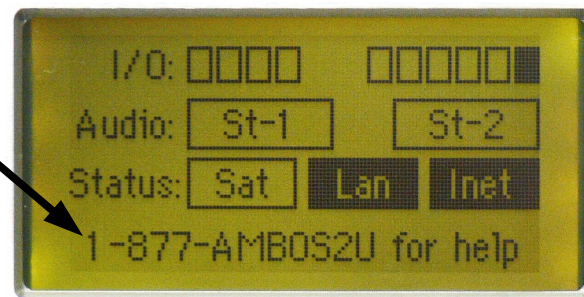
[Audio port 1](#) is playing a mono program out the left channel and nothing out of the right channel.



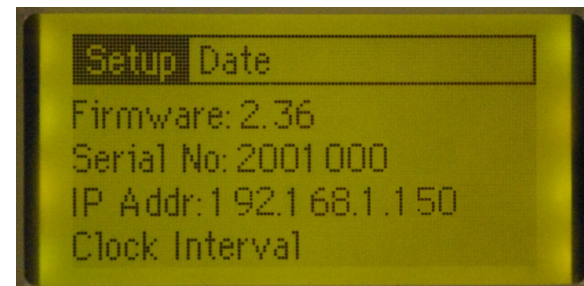
Audio Status

[Audio port 2](#) is playing a stereo program

**Message Line:** The last line on the display is black and it is the message window. Text messages sent by the satellite uplink are displayed on this line.



Pressing any button changes the screen to display the [Settings](#) and [Date](#).



### De-authorized Message:

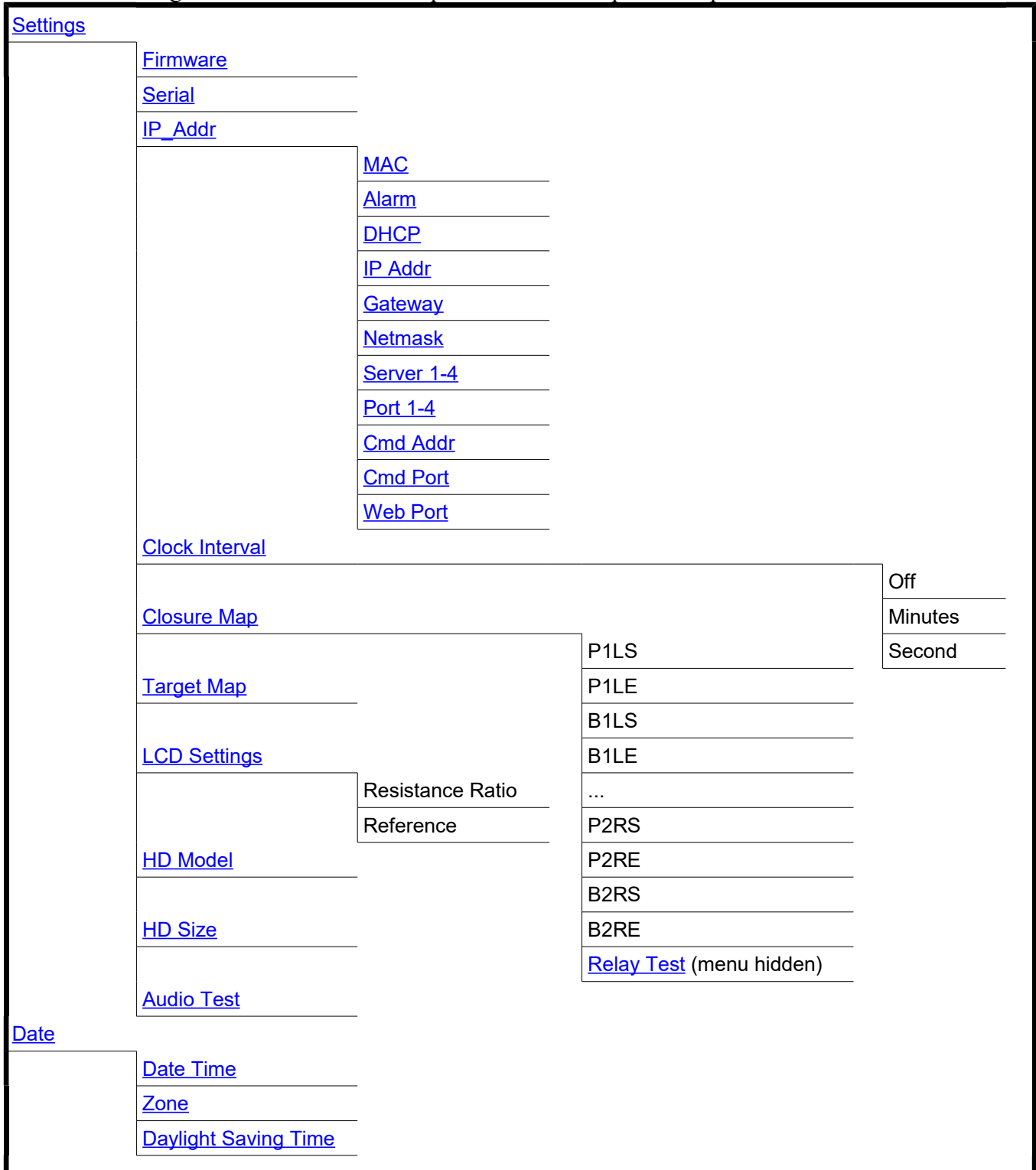
The Amb-OS network administrator can disable a receiver. If that happens, the de-authorized message appears in the middle of the screen with the message line at the bottom.



In the event the AMR-100 becomes de-authorized, call the Amb-OS support line to have it restored to normal operation. (877) AMB-OS2U or (877) 262-6728

## Front Panel Menu Options

The following chart is a tree of all the options in the front panel setup.



The SETTINGS display shows the following options and the “\*” indicates the setting can be changed (the “\*” is not on the screen).

To get to the “Settings Menu,” press the [ENTER] button once.

Firmware: 2.36 (or current version)

Serial No: 2001000 (local serial number)

\*[IP Addr: DHCP](#) (default or the internal IP address of the AMR-100)

\*[Clock Interval](#)

\*[Closure Map](#)

\*[Target Map](#)

\*[LCD Settings](#)

HD Model: ST38021 5A (factory drive)

HD Size: 76319meg (factory drive)

\*[Audio Test](#)

## Settings Menu

### IP Address Submenu

MAC XXXXXXXXXXXXX – The [MAC address](#) is unique to each receiver and cannot be changed.

#### \*Alarm

Alarm: Output 6 (default)

Cannot be set with [HTML Command Interface](#)

The alarm closes on the following conditions:

1. Loss of RF signal
2. Shorted LNB (too much current to LNB)
3. Loss of Ethernet connectivity to the network
4. Loss of connection the Amb-OS server

The alarm always detects the RF and Network faults and it cannot be set to ignore one or the other.

From the main screen:

1. Press [ENTER] twice to edit settings
2. Press the [DOWN] arrow to highlight “IP Addr”
3. Press [ENTER] to edit the settings
4. Press the [DOWN] arrow to highlight “Alarm”
5. [ENTER] to rotate through the options:
  - a. “Off”
  - b. “Output 5”
  - c. “Output 6” (default)
6. Press [BACK] to save and return to the “IP Addr” submenu

Setup	Date
MAC:	XXXXXXXXXXXXXX
Alarm:	Output 6
DHCP:	No
IP Addr:	192.168.1.150

IP Addr	
	MAC
	*Alarm
	*DHCP
	*IP Addr
	*Gateway
	*Netmask
	*RpSvr1
	*RpPort1
	*RpSvr2
	*RpPort2
	*RpSvr3
	*RpPort3
	*RpSvr4
	*RpPort4
	*LdSvr1
	*LdPort1
	*LdSvr2
	*LdPort2
	*LdSvr3
	*LdPort3
	*LdSvr4
	*LdPort4
	*Cmd Addr
	*Cmd Port
	*Web Port

**\*DHCP**

[DHCP](#): Yes (default)

Can be set by [HTML Command Interface](#)

From the main screen:

1. Press [ENTER] twice to edit settings
2. Press the [DOWN] arrow to highlight “IP Addr: [DHCP](#)”
3. Press [ENTER] to edit the settings
4. Press the [DOWN] arrow to highlight “[DHCP](#)”
5. Press [ENTER] to change the setting (either “Yes” or “No”)
6. Press the [BACK] button to save the setting and return to the [IP Address submenu](#)

After changing [DHCP](#) to “No,” set the [IP address](#) to the desired address (see [IP Address Change](#)).

Setup	Date
MAC:	xxxxxxxxxxxxxx
Alarm:	Output 6
<b>DHCP:</b>	No
IP Addr:	192.168.1.150

**WARNING**

When changing from a [dynamic IP address](#) ([DHCP](#) = “Yes”) to a [static address](#) ([DHCP](#)=“No”), the default [gateway](#) and the [netmask](#) may have to be set.



## \*IP Addr

IP Addr: ###.###.###.### (Internal network IP address)

Can be set by [HTML Command Interface](#)

One and two digit subnet addresses need leading 0's so enter all twelve digits. The address of 192.168.1.10 would be entered as 192.168.001.010. The setting is saved after setting the last digit.

To set the IP address, change the AMR-100 from a dynamic IP address ([DHCP](#) = "Yes") to a static IP address ([DHCP](#) = "No"). When changing the IP address to a static address, the [gateway](#) and the [netmask](#) may also need to be changed.

From the main screen:

1. Press [ENTER] twice to edit the settings
2. Press the [DOWN] arrow to highlight:  
"IP Addr: ###.###.###.###"
3. Press [ENTER] to change the settings
4. Press the [DOWN] arrow to highlight  
"IP Addr: ###.###.###.###"
5. Press [ENTER] to change the settings – the first digit will be highlighted as seen in the figure to the right
6. Press the [UP] or [DOWN] arrows to change the number
7. Press [ENTER] to go to the next digit
8. Press [BACK] to return to a previous digit
9. Repeat steps #7 and #8 until the desired IP address has been entered
10. Press [ENTER] on the last digit to save the new address and exit the settings menu.

(IP address used below is for example only)

Setup	Date
Firmware:	2.36
Serial No:	2001000
IP Addr:	192.168.001.150
Clock Interval	

Setup	Date
DHCP:	No
IP Addr:	192.168.001.150
Gateway:	192.168.1.1
Netmask:	255.255.255.0

### WARNING

Verify the IP address falls outside of the router's [DHCP](#) pool.

When decreasing the 100s digit of each subnet, pressing the [DOWN] arrow after reaching 0, resets the entire subnet address to 000. When pressing the [UP] arrow past 2, changes the subnet address to 255. The 10s and 1s digit keeps decrementing the address. For example, when decrementing the 10s digit past 0, the 100s digit decrements. Thus 102, would change to 092. Like wise when increasing the 10s digit the 100s digit will increment. Thus, 192 would change 202. The 1s place does the same.

### WARNING

When [DHCP](#) is set to "ON," the [IP address](#) can be changed, but if [DHCP](#) remains set to "ON." When the AMR-100 reboots, [DHCP](#) will change the [IP address](#) to the [DHCP](#) setting.

### WARNING

After changing the [IP address](#), the system setting in the [Amb-OS User Interface](#) needs to match the new [IP address](#) and the new [IP address](#) must be used to access the [HTML Interface](#) in a browser.

## \*Gateway

Gateway: ####.####.####.#### (Internal network gateway address)

Can be set by [HTML Command Interface](#)

[DHCP](#), when on, automatically sets the gateway address to the router that connects to the Internet. With [DHCP](#) off, the gateway address needs to be set manually.

One and two digit subnet addresses have leading 0's. All twelve digits need to be entered. The address 192.168.1.1 would be entered as 192.168.001.001. The setting is saved after setting the last digit.

From the main screen:

1. Press [ENTER] twice to edit the settings
2. Press the [DOWN] arrow to highlight the [IP address](#) of the AMR-100
3. Press [ENTER] to change the settings
4. Press [DOWN] until "Gateway" is highlighted
5. Press [ENTER] to change the settings – the first digit will be highlighted
6. Press the [UP] or [DOWN] arrows to the number
7. Press [ENTER] to go to the next digit
8. Press [BACK] to return to a previous digit
9. Repeat this steps #7 and #8 until the desired gateway address has been entered
10. Press [ENTER] on the last digit to save the new address and exit the settings menu.

Setup	Date
DHCP:	No
IP Addr:	192.168.1.150
Gateway:	192.168.001.001
Netmask:	255.255.255.0

When decreasing the 100s digit of each subnet, pressing the [DOWN] arrow after reaching 0, resets the entire subnet address to 000. When pressing the [UP] arrow past 2, changes the subnet address to 255. The 10s and 1s digit keeps decrementing the address. For example, when decrementing the 10s digit past 0, the 100s digit decrements. Thus 102, would change to 092. Like wise when increasing the 10s digit the 100s digit will increment. Thus, 192 would change 202. The 1s place does the same.

## \*Netmask

Netmask: ###.###.###.### (default 255.255.255.0)

Can be set by [HTML Command Interface](#)

Networks use the netmask to separate network segments. Normally, a local network uses a mask of 255.255.255.0 and the AMR-100 uses that as the default and does not need to be changed. The network administrator can provide an alternate netmask if necessary.

One and two digit subnet addresses have leading 0's. All twelve digits need to be entered. The netmask of 255.255.255.0 would be entered as 255.255.255.000. The setting is saved after setting the last digit.

From the main screen:

1. Press [ENTER] twice to edit the settings
2. Press the [DOWN] arrow to highlight the [IP address](#) of the AMR-100.
3. Press [ENTER] to change the settings
4. Press [DOWN] until "Netmask" is highlighted
5. Press [ENTER] to change the settings – the first digit will be highlighted
6. Press the [UP] or [DOWN] arrows to the number
7. Press [ENTER] to go to the next digit
8. Press [BACK] to return to a previous digit
9. Repeat steps #7 and #8 until the desired gateway address has been entered
10. Press [ENTER] on the last digit to save the new address and exit the settings menu

Setup	Date
DHCP:	No
IP Addr:	192.168.1.150
Gateway:	192.168.1.1
Netmask:	255.255.255.000

When decreasing the 100s digit of each subnet, pressing the [DOWN] arrow after reaching 0, resets the entire subnet address to 000. When pressing the [UP] arrow past 2, changes the subnet address to 255. The 10s and 1s digit keeps decrementing the address. For example, when decrementing the 10s digit past 0, the 100s digit decrements. Thus 102, would change to 092. Like wise when increasing the 10s digit the 100s digit will increment. Thus, 192 would change 202. The 1s place does the same.

**\*RpSrvr/LdSrvr, Command Address and Ports:**

The [eight server](#) entries in this section reflect a mirrored server configuration at the uplink sites with diverse Internet routes to each server through a [communication's port](#). The report servers 1-4 represent the reporting servers (where data and reports are sent). The load servers 1-4 represent the data backfill servers.

The [command address](#) specifies the [IP address](#) used by the AMR-100 to communicate with a browser to use the [HTML Interface](#). The [command address port](#) specifies the port used by the browser to use the [HTML Interface](#).

<p><b>WARNING</b></p> <p><b>Never change the IP addresses of the servers or the port numbers unless instructed to do so by Amb-OS support personnel. Changing these values can cause the AMR-100 to miss programs.</b></p>
--

\*The IP address for each server is:

- RpSrvr1: 72.159.94.35
- RpSrvr2: 209.169.52.43
- RpSrvr3: 72.159.94.36
- RpSrvr4: 64.27.12.136
  
- LdSrvr1: 64.27.12.136
- LdSrvr2: 64.27.12.137
- LdSrvr3: 72.159.94.35
- LdSrvr4: 209.169.52.44

\*Server Port number:

Server Port: 25000 (default – all the servers use this port)

This should not be changed unless instructed to do so by Amb-OS support personnel.

\*Command Address:

Command Address: 239.239.239.128 (default)

This should not be changed unless instructed to do so by Amb-OS support personnel.

\*Command Port:

Command Port: 23456 (default)

This should not be changed unless instructed to do so by Amb-OS support personnel.

Setup	Date
LdPort4:	25000
CmdAddr:	239.239.239.128
CmdPort:	23456
WebPort:	80

**\*WebPort:**

WebPort: 80 (default)

Can be set by the [HTML Command Interface](#).

Normally this setting does not need to be changed; however, with multiple web access pages, a different port may be required.

The webport is a five digit number and all five digits need to be entered. The weport of 80 would be entered as 00080. The setting is saved after setting the last digit.

From the main screen:

1. Press [ENTER] twice to edit the settings
2. Press the [DOWN] arrow to highlight [DHCP](#) or the [IP address](#) of the AMR-100
3. Press [ENTER] to change the settings
4. Press [DOWN] until “WebPort” is highlighted
5. Press [ENTER] to change the settings
6. Press [UP] or [DOWN] to change the digit to the desired value
7. Press [ENTER] to move to the next one
8. Press [BACK] to return to a previous digit to correct it
9. Press [ENTER] to go to the next digit.
10. Press [ENTER] (on the last digit) to save the new address and exit the settings menu

Setup	Date
LdPort4:	25000
CmdAddr:	239.239.239.128
CmdPort:	23456
WebPort:	00080

## \*Clock Interval

Clock Interval – default: “OFF”

This disables or enables the clock interval [relay](#). It also defines when a [relay](#) closes to synchronize clocks every hour and can be set to any minute or second desired. The default time is at the top of the hour (XX:00:00).

By default, [relay #5](#) is used for the time sync. While [relay #6](#) is used for the [alarm](#), either relay can be used for either function.

The AMR-100 does not check to see if the same relay is used for the [time sync](#) and [alarm](#). Thus a time sync could trigger both the time sync and the alarm indication at the same time. Likewise an [alarm](#) could trigger both the alarm indication and a time sync at the same time. Be careful to check which, if either, [relay](#) is used for each function or for programming.

Clock Interval	
	Off
	Minutes
	Seconds

### WARNING

**Before selecting the relay to use for the clock interval, verify the [relay](#) used for the [alarm](#) and whether [#5](#) or [#6](#) will be used for programming functions to avoid conflicts and unpredictable results.**

The following procedure sets the time sync relay on and the relay closure at 54:30 to simulate the Wegener Unity® 4000 time pulse at 54:30.

From the main screen:

1. Press [ENTER] twice to edit the settings
2. Press the [DOWN] arrow to highlight “Clock Interval.”
3. Press [ENTER] to edit the menu
4. Press [ENTER] to select the [relay](#) or turn off the Alarm (it rotates through the following options)
  - e. “OFF”
  - f. “Output 5”
  - g. “Output 6”

Setup	Date
Alarm:	Output 5
Minute:	0
Second:	0

- Select “Output 5” if the alarm uses [#6](#) to not interfere with the [failure alarm](#). Verify which [relay](#) the alarm uses [#5](#) or [#6](#) (default) or is disabled. If the alarm is disabled, either [relay](#) can be used. However, be sure no programming functions use the selected [relay](#).
8. Press [DOWN] to get to MINUTES:
  9. Press [ENTER] to change the minutes (each [ENTER] increments the minutes by one)  
To get to 54, press [ENTER] 54 times
  10. Press [DOWN] to get to SECONDS:
  11. Press [ENTER] to change the seconds (each [ENTER] increments the seconds by one)  
To get to 30, press [ENTER] 30 times
  12. Press [BACK] to save the changes

The Time Sync relay closes each hour for one second at the MM:SS setting. With the example listed above, [relay #5](#) closes at XX:54:30 and open at XX:54:31.

## \*Closure Map

This allows changing the programming relay assignments. The [Closure Map Table](#) section lists the [default assignments](#) and [states](#). The names are listed in the table to the right. The numbers in the name are the [ports](#) associated with the [closure](#). [Relay #6](#) can never be used. However, if the [Clock Interval \(#5\)](#) function is not used, [#5](#) can be used with the first four relays.

This section assumes that [relay #5](#) is used for the [time sync](#) or [alarm](#) and only [relays #1-#4](#) are available.

A full description of the relays is found in the [Closure Map Definitions](#) section.

The [Relay Test Menu](#) is only accessible by holding down the [UP] and [DOWN] at the same time while in this menu.

Map Names	
P1LS	P2LS
P1LE	P2LE
B1LS	B2LS
B1LE	B2LE
P1RS	P2RS
P1RE	P2RE
B1RS	B2RS
B1RE	B2RE

## Settings

General instructions:

1. [ENTER] moves between fields and accepts changes
2. [BACK] goes to a previous field and saves the setting only when the name of the relay ([P1LS](#), [P1LE](#), etc.) has been selected
3. [UP] and [DOWN] change values
  - a. Only relays #1-[#5](#) are available
  - b. The options rotate through “None,” “1,” “2,” “3,” “4” and “5” if the [Clock Interval](#) is not used or it uses [#6](#).
  - c. The relay states rotate through “On,” “Off,” and “Pulse”

**NOTE**  
**Relay #6 can never be mapped.**

From the main screen:

1. Press [ENTER] twice to edit the settings
2. Press the [DOWN] arrow to highlight “Closure Map”
3. Press [ENTER] to edit the closure map and highlight “[P1LS](#)”
4. Press [ENTER] to move to the relay – this will be 1 in the default settings
5. Press [UP] or [DOWN] to change the relay
6. Press [ENTER] to move to the state
7. Press [UP] or [DOWN] to change the setting from ON to OFF or PULSE
8. Press [ENTER] to highlight P1LS
9. Press [BACK] to save the settings

Setup	Date	
<b>P1LS</b>	None	Off
<b>P1LE</b>	1	Pulse
<b>B1LS</b>	None	Off
<b>B1LE</b>	2	Pulse

Only pressing [BACK] exits the “Closure Map” settings.

## Resetting to Default Closures

In the [Relay Test](#) menu, press [UP] and [DOWN] at the same time resets the closure map to the default settings.

## Relay Test Menu

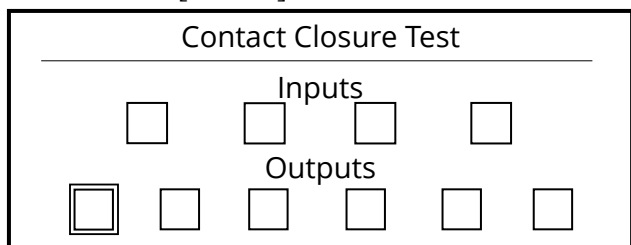
To check the [input closures](#) and verify the [output relays](#), press [UP] and [DOWN] arrows at the same time while in the [Closure Map](#) menu. To move between the output closures, use the [UP] and [DOWN] arrows. The [DOWN] arrow moves the cursor to the right and the [UP] arrow moves the cursor to the left. The cursor does not cycle from the far right back to the far left.

## Closure Test

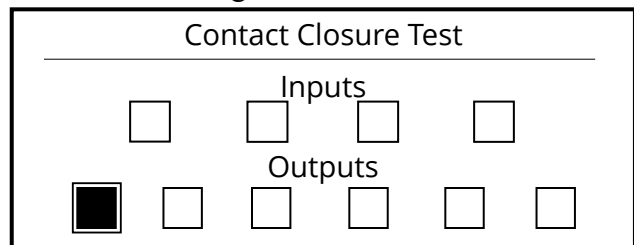
The output closures can also be tested through the [HTML interface](#).

From the main screen:

1. Press [ENTER] twice to edit the settings
2. Press the [DOWN] arrow to highlight Closure Map
3. Press [ENTER] to edit the Closure Maps
4. Press [UP] and [DOWN] arrows together to select the [output closure](#) test
5. Press [ENTER] to activate the [relay](#) – the box of the selected [relay](#) will darken
6. Press [ENTER] to deactivate the [relay](#) – the box of the selected [relay](#) to return to normal
7. Press the [UP] or [DOWN] arrows to select a different [relay](#)
8. Press [BACK] to exit the closure test and return to the Settings submenu



[Relay](#) #1 selected, but not activated



[Relay](#) #1 selected and activated

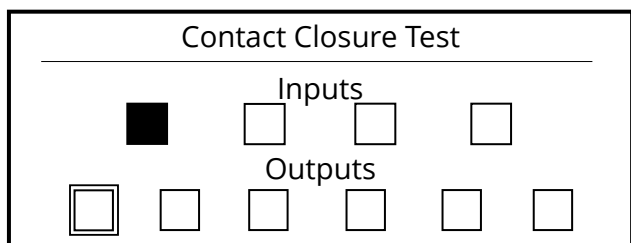
The output closures remain active until the [ENTER] key is pressed to deactivate them. All the closures can be activated at the same time. The closures do not reset when exiting the test menu.

**WARNING**  
If output closures [#5](#) and [#6](#) are wired for the [time interval](#) and [alarm](#), activating the outputs will sync the [clock](#) and/or set the [alarm](#).

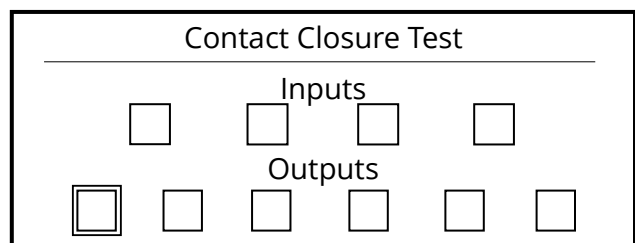
**WARNING**  
Exiting the test menu will not deactivate the [output closures](#). Be sure to deactivate them before leaving the test menu.

## Input relay test

When an [input closure](#) is closed, the appropriate box goes black and then clears after it is released.



Input #1 closed, inputs #2, #3 and #4 open



Input #1 cleared and all inputs open



## \*Target Map

This menu allows the [target map](#) assignments to be changed to any of the [analog targets](#). The default mappings are:

TMAP1 = T1 (stereo)

TMAP2 = T2 (stereo)

TMAP3 = T1L (mono)

TMAP4 = T1R (mono)

TMAP5 = T2L (mono)

TMAP6 = T2R (mono)

TMAP7 = T2 (stereo) [the [Emergency or “one off”](#) program target]

Setup	Date
<b>TMAP1</b>	<b>Stereo 1</b>
<b>TMAP2</b>	<b>Stereo 2</b>
<b>TMAP3</b>	<b>Mono 1 Left</b>
<b>TMAP4</b>	<b>Mono 1 Right</b>

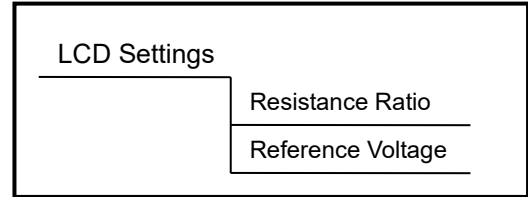
The Target Map settings can be set through the [HTML interface](#).

From the main screen:

1. Press [ENTER] twice to edit the settings
2. Press [DOWN] until [Target Map](#) is highlighted
3. Press [ENTER] to edit the [Target Map](#) – TMAP1 is highlighted
4. Press [ENTER] to change the mapping  
Rotates through Stereo 1, Mono 1 Left, Mono 1 Right and the same for stereo 2
5. Press [UP] or [DOWN] to move to the next [Target Map](#)
6. Press [BACK] to save the settings

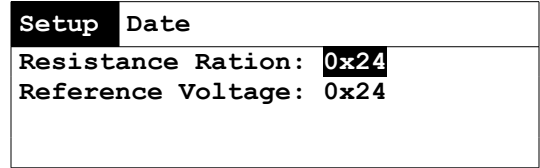
### \*LCD Settings

Use this to change the contrast of the display. Be very careful, because the display can be made unreadable. [Reset](#) the AMR-100 to its default settings to restore the screen.



From the main screen:

1. Press [ENTER] twice to edit the settings
2. Press the [DOWN] arrow to get to LCD Settings
3. Press [ENTER] to change the settings
4. Press [ENTER] to edit the Resistance Ratio
5. Press [UP] or [DOWN] to change the settings – this makes fine adjustments to the contrast of the display
6. Press [UP] or [DOWN] to change the settings – this makes coarse adjustments to the contrast of the display
7. Press [ENTER] to save the settings and return to the [Settings](#) submenu



**NOTE**  
To restore the display to its default settings, [reset](#) the AMR-100.

HD Model: ST38021 5A (This is the model number of the factory installed internal hard drive)

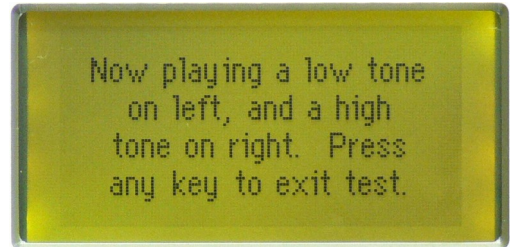
HD Size: 76319meg (This is the size of the factory installed internal hard drive – approximately 80 GB)

### \*Audio Test

**WARNING**  
Starting the Audio Test when programs are playing will stop the program from playing.

From the main screen

1. Press [ENTER] twice to edit the settings
2. Press [DOWN] until “Audio Test” is highlighted (last item of menu)
3. Press [ENTER] to start the test. It generates two different tones (a lower tone on the left channel and a higher tone on the right channel).
4. Press any key to exit the test (as described on the display)



Playing the Audio Test

**WARNING**  
Keep monitor levels turned down when using the Audio Test.

## Date Menu

After connecting to the RF carrier, the AMR-100 syncs its time to the GPS time embedded in the RF carrier, which is set to [GMT](#). The AMR-100 changes the time to reflect the [Zone](#) and [Daylight Saving Time](#) setting.

After the clock syncs, the edit mode goes directly to the [Zone](#) setting and the date and time cannot be changed. If the month is highlighted when entering the date menu, then the clock has not synced with the RF carrier. The date and time can be changed, but it changes to the time in embedded in the RF carrier when the AMR-100 syncs.

DATE	
	Date Time _____
	Zone _____
	Daylight Saving Time _____

Only three options exist on the Date Menu:

[Date and time](#) (changes the date and time)

[Zone](#) (changes the time zone)

[Daylight Saving Time](#) (changes the [DST](#) setting)

Setup	Date
08/04/2015 14:12:10	
Zone:	<b>Mountain</b> Zmins: 00
Daylight Saving Time: Yes	

## Date Time

The receiver wakes up based on the time it had during testing at the factory. The time can be changed before the AMR-100 syncs with the embedded time on the carrier. After the AMR-100 syncs to the GPS time embedded time in the RF carrier, the time automatically changes to the GPS time and it cannot be changed.

**NOTE**  
**When the AMR-100 syncs to the embedded GPS time, no matter what time has been set the date and time is set to the GPS time. Setting the time manually does not change the GPS time sync.**

## Time Zone

Zone: Eastern (default)

Can be set using the [HTML Command Interface](#), but it only sets the hours to and from [GMT](#).

Seven zones have names (in parenthesis) and the other zones reflect the time in hours and minutes to and from [GMT](#) (GMT-1, GMT+12, etc.). The zone can be set to any time zone and have minute offset, but the minute offset must be set through the [front panel](#).

#	GMT (Zone)	#	GMT (Zone)	#	GMT (Zone)	#	GMT (Zone)	#	GMT (Zone)
3	-5 (Eastern)	-2	-10 (Hawaii)	18	+10	13	+5	8	GMT
2	-6 (Central)	-3	-11	17	+9	12	+4	7	-1
1	-7 (Mountain)	-4	-12	16	+8	11	+3	6	-2
0	-8 (Pacific)	20	+12	15	+7	10	+2	5	-3
-1	-9 (Alaska)	19	+11	14	+6	9	+1	4	-4 (Atlantic)

Note: Time zone settings use Standard Time from GMT and ignores [Daylight Saving Time \(DST\)](#).

After the clock syncs with the RF carrier and sets the time, the AMR-100 immediately adjusts the time to reflect the zone setting. Thus, changing the zone from Eastern to Central at 11:34:35 causes the time to change to 10:34:35 immediately.

From the main screen:

1. Press [ENTER] to go to the status menu
2. Press the [UP] or [DOWN] arrow to highlight Date
3. Press [ENTER] to enter the Date settings
4. Press [ENTER] to edit the time settings  
**If the AMR-100 has not synced with the RF carrier, press [ENTER] to skip the date and time settings until highlighting the Zone setting**
5. Press the [UP] and [DOWN] arrow to change the zone ([UP] arrow moves away from GMT and the [DOWN] arrow moves to GMT)
6. Press [ENTER] to save the zone and highlight “Zmin”
7. Press the [UP] and [DOWN] to change the minutes or leave the setting at “00”
8. Press [ENTER] to save the minutes and highlight the Daylight Saving Time settings
9. Press the [UP] and [DOWN] arrows to rotate between “Yes” and “No”
10. Press [ENTER] to save the changes

**Using the Zmin setting:** Newfoundland time is -2.5 hours from GMT. To set that zone, in step #5 set the hours to GMT-2 and in step #7 change the minutes to 30. That sets the zone to GMT -2.5.

## *Daylight Saving Time*

Daylight Saving Time: Yes (default)

Can be set using the [HTML Command Interface](#).

This has the AMR-100 recognize [Daylight Saving Time](#) each year (“Yes”) or to ignore it (“No”). Use the procedure in the [Time Zone](#) and press [ENTER] twice after highlighting the [Zone](#) setting to change the [Daylight Saving Time](#) setting and not change any other time settings.

**Set to “YES”:** The AMR-100 changes the hour during [Daylight Saving Time](#).

**Set to “NO”:** The AMR-100 does not change the hour during [Daylight Saving Time](#). In Hawaii, for example, set the zone to “Hawaii” and set [Daylight Saving Time](#) to “No.”

From the main screen:

1. Press [ENTER] to go to the status menu
2. Press the [UP] or [DOWN] arrow to highlight Date
3. Press [ENTER] to enter the Date settings
4. Press [ENTER] to edit the time settings  
**If the AMR-100 has not synced with the RF carrier, press [ENTER] to skip the date and time settings until highlighting the Zone setting**
5. Press [ENTER] to skip the time zone
6. Press [ENTER] to skip the “Zmin” setting
7. Press the [UP] and [DOWN] arrows to rotate between “Yes” and “No”

# PROGRAM PLAYBACK

## **Playback after a power loss**

The AMR-100 resumes playing a program after a power loss, [reboot](#) or [reset](#). The AMR-100 stores the time a program starts and the time it would end. When the AMR-100 loses power or is [rebooted](#) or [reset](#), it calculates the position in the program where it would have been without the interruption. The following illustrates what happens to the playback for a 25 minute program.

1. A program starts at 09:00:00 and would end at 09:25:00
2. At 09:09:45 power was lost to the receiver terminating playback
3. At 09:11:20 power was restored
4. In about 30 seconds, the AMR-100 completes its power up boot at 09:11:50
5. The audio resumes playing at 11:50 into the program – where it would have been without the power interruption
6. The program ends at its normal run time at 09:25:00

## **Ports and Targets**

### **General Description of Ports**

#### *Analog/Digital Ports*

##### Analog Ports

The AMR-100 uses the [analog outputs](#) as the main outputs. Audio can be directed to just the left or right channel of the [analog ports](#). Using just the left and right channels allow up to [four programs](#) to be played at the same time.

#### **NOTE**

**Stereo programs have to be played on the same [analog port](#). The left channel cannot be sent to [port 1](#) and the right channel sent to [port 2](#).**

The AMR-100 mixes a stereo program to mono when using mono [port](#). A stereo program sent out [port 1](#) on just the left channel has the stereo program mixed to mono on that [port](#).

The [IP streaming](#) and [recording](#) ports need the [analog ports](#) as the primary port.

##### Digital Ports

These match the [analog outputs](#) and cannot be used independently of the [analog port](#). Whatever comes out the [analog port](#) comes out on the [digital ports](#). Two mono programs (one on the left and the other on the right) sent to the analog port come out on left and right channel of the [AES-EBU, SPDIF, and OPTICAL](#) connectors of the [port](#). [Port 1](#) and [port 2](#) can have different audio playing, but the audio playing on [port 1 and 2](#) also come out the digital outputs of the [AES-EBU, SPDIF, and OPTICAL](#) ports of [port 1 and 2](#).

#### **NOTE**

**A different program cannot play on [analog port 1](#) and another program play on [digital port 1](#). The same thing applies to [port 2](#).**

### *IP Streaming Port*

The AMR-100 can stream audio on the local network through the [Ethernet port](#), but, like the [digital outputs](#), it must have an associated [analog output](#). The Ethernet stream is always in stereo, which means even if the stereo program has been summed to mono on the left channel of an analog [port](#), the network stream would be in stereo.

Windows Media Player® cannot decode the stream, but the VLC Media Player® from VideoLAN® (available at [www.videolan.org](http://www.videolan.org)) can decode the stream. Set the URL in VideoLAN® to the address specified in the streaming target to decode the stream.

### *Recording Port*

The AMR-100 can record a program on the hard drive of the AMR-100 as it plays out an [analog port](#). Like the [Streaming port](#), it needs to have an [analog port](#) as the primary output. It also always records in stereo even if the [analog port](#) plays a summed stereo program on the left or right channel. Program producers use this function to record live programs for time shifting.

## General Description of Targets

The AMR-100 has three types of targets ([analog](#), [streaming](#) and [recording](#)) designated by a “T.” Using targets requires a [playlist](#) on the AMR-100.

### Analog/Digital Targets

**T#A** (# = port # – 1 or 2, A = “L” or “R” – optional)

**Analog:** The analog targets point directly to the [analog ports](#).

The [analog ports](#) are called [port 1](#) and [port 2](#). [Port 1](#) is T1 and [port 2](#) is T2. The [analog/digital audio](#) outputs can be stereo (T1 and T2) or separate mono left and right ports using the “L” or “R” designators in the name (T1L, T1R, T2L and T2R). Using the “L” and “R” designators allows up to [four programs](#) to be played at the same time.

#### ANALOG TARGETS

Analog Port 1.....	T1 (stereo)
Analog Port 1 Left....	T1L (mono)
Analog Port 1 Right...	T1R (mono)
Analog Port 2.....	T2 (stereo)
Analog Port 2 Left....	T2L (mono)
Analog Port 2 Right...	T2R (mono)

**Digital:** The output of the [analog ports](#) send the same audio to the [digital outputs](#). Two stereo programs sent out [Target 1](#) as mono feeds ([T1L and T1R](#)), would have the same summed stereo program sent out left and right channel of the [digital port](#).

#### NOTE

The [digital ports](#) cannot be addressed directly, because they match the output of the [analog ports](#).

### Streaming Target

**T###.###.###.###:PPPP** (###.###.###.### = Multicast IP address, PPPP = Multicast port)

The AMR-100 can create an [Ethernet stream](#) that can be decoded by another computer or a dedicated decoding appliance. The [Ethernet stream](#) must have an IP address and a port. For example, T224.0.0.1:5004 means the target is IP address 224.0.0.1 and port 5004. The IP address of the stream must be compatible with a [multicast stream](#) on the local network.

Windows Media Player® cannot decode the stream, but the VLC Media Player® from VideoLAN® (available at [www.videolan.org](http://www.videolan.org)) can decode the stream. Set the URL in VideoLAN® to the address specified in the streaming target to decode the stream.

### Record Target

**Tfilename.MP2** (*filename* = the name of the recorded program, *MP2* = the required extension)

A program played on an [analog target](#) can be recorded on the hard drive of the AMR-100. This can be used to time shift a live program. For example, TLIVE\_PRGM.MP2 would record LIVE\_PRGM.MP2 on the receiver.

#### NOTE

Only programs played out on the AMR-100 can be recorded. No provision exists to record an external feed to the AMR-100.

## Target Use

### Target Options

Programs can be played back on the [analog ports \(targets\)](#) in stereo, mono, or in a combination. A [streaming](#) and [recording](#) port have to be used with an [analog](#) target.

### Target Combinations

#### Analog Targets

One to four programs can be played at one time. The possible combinations for the [analog targets](#):

1. One program – Just one port: T1, T1L, T1R, T2, T2L, T2R
2. Two programs – T1 and T2 used as stereo outputs or two mono outputs (left or right)
3. Three programs – T1 as stereo and T2L/R as mono or T2 as stereo and T1L/R as mono
4. Four programs – T1L/R as two mono and T2L/R as two mono

#### Streaming/Recordings Targets

The [Ethernet stream](#) and [record target](#) need an analog [target](#) as the primary [target](#). To stream a program or record a program, each program must have an [analog port](#) assigned in addition to the stream or recording. In the [playlist](#), a comma separates two or three [targets](#).

**WARNING**

**A stream or recording target must have an audio port as the primary target to function.**

It is possible to have four stereo streams and recorded programs by using each of the mono [targets](#) as a separate source. If the original program was in stereo, the stream and the recording will be in stereo, but the [analog port](#) would be summed mono on the left and right channels.

The the following combinations can be used with streams:

1. T224.0.0.1:5004 and using T1L as the main output (T1L,T224.0.0.1:5004)
2. T224.0.0.2:5004 and using T1R as the main output (T1R,T224.0.0.2:5004)
3. T224.0.0.3:5004 and using T2L as the main output (T2L,T224.0.0.3:5004)
4. T224.0.0.4:5004 and using T2R as the main output (T2R,T224.0.0.4:5004)

The the following combinations can be used with recordings:

1. *Tfilename1.mp2* and using T1L as the main output (T1L,TPROGRAM-1.MP2)
2. *Tfilename2.mp2* and using T1R as the main output (T1R,TPROGRAM-2.MP2)
3. *Tfilename3.mp2* and using T2L as the main output (T2L,TPROGRAM-3.MP2)
4. *Tfilename4.mp2* and using T2R as the main output (T2R,TPROGRAM-4.MP2)

A [playlist](#) can have all three targets play the same programs by separating each target with a comma.

The complete line in a playlist would be:

1, 10:00:00, P1, T1L, T224.0.0.1:5004, TRECORDING1.MP2

Get the [Software Playlist Manual](#) to see how to fully implement targets in the [playlist](#). Download the manual at <http://www.amb-os.com/support.html>



## Target Maps

Mapped targets use the [analog ports](#), but addressed by a single name. A live program may have a target of TMAP1 and the station can assign that to any of the six analog targets: T1, T2, T1L, T1R, T2, T2L or T2R.

A seventh mapped target, TMAP7, is reserved for [emergency or "one off"](#) broadcasts. To have TMAP7 work, it needs to be [assigned](#) to an analog [target](#), it also has to be enabled from the [front panel](#). See the [Emergency Enable](#) section.

Setting TMAP targets can be done through the [front panel](#) menu ([Target map](#) section), or through the [Target map command](#) in the [HTML command interface](#).

The mapped names are with their default mapping:

- TMAP1 – T1 (stereo)
- TMAP2 – T2 (stereo)
- TMAP3 – T1L (mono)
- TMAP4 – T1R (mono)
- TMAP5 – T2L (mono)
- TMAP6 – T2R (mono)
- TMAP7 – T2 (stereo) [[Emergency or "one off"](#) program target]

Programs played by a [playlist](#) normally use the [analog targets](#) (T1, T2, T1L, etc.), because the connections to the air chain stay the same, but the TMAP targets can be used with local programs.

For live programs, individual stations use different [targets](#). If TMAP1 is mapped to T1L, then when the TMAP1 [target](#) is specified in a [playlist](#), it plays out T1L (mono). However, another station may use T2. Likewise, if a station changed to their TMAP to T2R, the [playlist](#) remains unchanged and it does not require the station to notify Amb-OS of the change. Therefore, rather than create a unique [playlist](#) for every station, program providers use TMAPs.

Mainly, live programs use Target Maps to have the same [target](#) in the live [playlist](#) for all stations. The Target Maps let each station redirect the output without interfering with other programs and not have to change the [analog target](#). The station assigns the Target Map to desired physical [target](#). This means the program provider can use one [playlist](#) for all stations rather than having individualized [playlists](#) for each station. For example, a program producer uses TMAP2 for their program and one station uses T1 and another uses T2L. Each stations maps TMAP2 to their need. One stations maps TMAP2 to T1 and the other to T2L. See the [Target Map](#) section to program the ports.

Each TMAP may have the same [physical target](#) assigned to them. TMAP1-7 can all have T2R assigned to them.

- TMAP1 – T2R (mono)
- TMAP2 – T2R (mono)
- TMAP3 – T2R (mono)
- TMAP4 – T2R (mono)
- TMAP5 – T2R (mono)
- TMAP6 – T2R (mono)
- TMAP7 – T2R (mono) [[Emergency or "one off"](#) program target]

### NOTE

**The same physical target can be assigned to all TMAP targets.**

## Playlist

### NOTE

This section is not a complete discussion on [playlists](#), but rather just a summary. Download the [playlist editor manual](#) from the [Amb-OS website](#): <http://www.amb-os.com/support.html>

The AMR-100 uses a playlist to play programs and control [output closures](#). [Schedules](#) play programs at specific times and [triggers](#) play programs on demand. Playlists can be created and modified by the [Amb-OS User Interface](#) or by using the [Stand Alone Playlist Editor](#). Download the [Amb-OS User Interface \(UI\) Software Playlist Manual](#) and the [Stand Alone Playlist Editor](#) at the [Amb-OS support](#) page ([www.amb-os.com/support.html](http://www.amb-os.com/support.html)) for a more thorough explanation of playlists.

### NOTE

Audio cannot be played from the front panel. Use the [HTML Command Interface](#) or the [Amb-OS User Interface](#) play audio.

## Triggers

Triggers initiate an action on the AMR-100 from an external source. Triggers have many options including a time limitation to allow a trigger to happen only at specific times. The playlist uses an [input closure](#) or a [text command](#) via the [RS-232 serial interface](#).

For a thorough discussion of triggers, see the [Amb-OS User Interface \(UI\) Software Playlist Manual](#). Use the [Stand Alone Playlist Editor](#) to define triggers. The AMB-OS User Interface (UI) does not have a provision to input trigger events. To use triggers, use the [Stand Alone Playlist Editor](#).

## Input closures

[Input closures](#) can start or stop programs. Wiring buttons to the [input closures](#) can imitate the “PLAY” and “STOP” remote switches used for a CD player.

## Commands

Text triggers, sent through the [RS-232 serial interface](#), can start and stop programs. Many automation systems can schedule serial commands. Program providers can send trigger commands via the satellite for live programs. Live program commands sent by program providers cannot be edited.

## Trigger Uses

Individual programs can be assigned play on a trigger. Four [input closures](#) can be used to trigger programs, but command strings can be used for many more events. Command strings can be as specific as “PLAY-TTT5-06-07-14” or as general as “PLAY.” The AMR-100 can have 256 total triggers ([input closures](#) and [commands](#)).

### WARNING

**The AMR-100 can only have 256 total triggers including program provider triggers.**

A series of programs can be assigned to one trigger ([input closure](#) or [command](#)). For example, to play ten spots or promos during the day, all of them could be assigned to play with the same trigger. By putting the spots in the order they play, the first time the trigger happens the first spot plays. The second time the trigger happens the second spot plays and so forth. Thus, one trigger could play all the spots or promos, one at a time, assigned to it during a broadcast day. After playing all the spots in the list, the list resets to the first spot.

Additionally, triggers ([input closures](#) or [commands](#)) can be restricted to certain times. For example, for a program that plays around 10:00 am, could have the trigger only active between 9:59:15 and 10:01:00. Activating the trigger at any other time has no effect. By using different time restrictions for different programs, each program can be played at the specific time with the same trigger.

Example using the same trigger, but with restricted times:

- 1, 09:59:00-10:01:15, “PLAY-PGM”-PLAY, P1 – (plays program 1)
- 2, 10:29:45-10:45:00, “PLAY-PGM”-PLAY, P2 – (plays program 2)
- 3, 15:15:00-15:17:30, “PLAY-PGM”-PLAY, P3 – (plays program 3)

### WARNING

**A trigger sent outside of the time restrictions has no effect.**

Download the [Amb-OS User Interface \(UI\) Software Playlist Manual](#) and the [Stand Alone Playlist Editor](#) at the [Amb-OS support](#) page ([www.amb-os.com/support.html](http://www.amb-os.com/support.html)) for a more thorough explanation of triggers.

## Timed Playback

Schedules can be set up to play a program at a specific time. A program can be scheduled to play right after the news at 10:04:30 or scheduled for recording. Use the [AMB-OS User Interface](#) software to build a schedule of programs to record and then program the automation system to record them at the selected time.

The [playlist](#) schedule is managed by the [AMB-OS User Interface](#) that also transfers programs. For a complete explanation of the [playlist](#) features, download the Amb-OS User Interface [Software Playlist Manual](#) and the [playlist manual](#) at [www.amb-os.com/support.html](http://www.amb-os.com/support.html).

# HTML INTERFACE

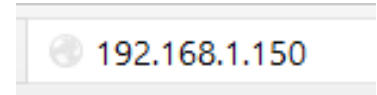
## *Access to the AMR-100 Web page*

To access the AMR-100 remotely through the built in web interface, the computer needs to be on the same network as the AMR-100.

Open an Internet browser window and enter the [IP address](#) of the receiver into the address line of the browser. Use the procedure in [Checking Network Settings](#) to get the [IP address](#) from the [front panel](#) of the AMR-100.

The [IP Address](#) used in this illustration is for example only. The local AMR-100 will have a different [IP Address](#).

Use the [IP Address](#) from in AMR-100 to connect to the AMR-100's web page.



1. Open an Internet browser
2. Enter the [IP Address](#) from the AMR-100 (for this example it is 192.168.1.150)
3. Press “GO” on the address line of the browser

The following screen site opens:




**Amb-OS AMR-100 SFT Receiver/Server**

**General Diagnostics**  
[System Statistics](#)  
[Scheduled Event List](#)  
[Trigger Event Lists](#)  
[Command Interface](#)

**Satellite Diagnostics**  
[1-Minute Receiver Summary](#)  
[15-Minute Receiver Summary](#)



[Click here to download manual \(PDF\).](#)



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## HTML Menus

The HTML menus are:

[General Diagnostics](#)  
[Satellite Diagnostics](#)

### General Diagnostics Menu

[System Statistics](#)  
[Scheduled Event List](#)  
[Trigger Event Lists](#)  
[Command Interface](#)

### System Statistics

This shows the settings and activity of the AMR-100

[General Statistics](#): Addresses and general settings

[Receiver Statistics](#): RF strength and quality

[Data Statistics](#): The summary of data transfers via RF

[Stream Statistics](#): The number streams on the AMR-100

[Audio Statistics](#): The summary of audio data

[Target Mapping Settings](#): The settings of the targets

[Ethernet Statistics](#): Summary of network traffic

[Drive Statistics](#): Summary of drive usage

The chart on the left shows the general statistics page. Each section is explained below.

**General Diagnostics**  
[System Statistics](#)  
[Scheduled Event List](#)  
[Trigger Event Lists](#)  
[Command Interface](#)

**Satellite Diagnostics**  
[1-Minute Receiver Summary](#)  
[15-Minute Receiver Summary](#)

```
GENERAL STATISTICS
-----
Firmware Ver:      2.28x
TID:               2001000
Processor Speed:   600Mhz
Bus Speed:         120Mhz
Ethernet Addr:     000000000000
DHCp:              No
IP Address:        192.168.1.150
Netmask:           255.255.255.0
Gateway:           192.168.1.1
Report Server 1:   72.159.94.35:25000
Report Server 2:   209.169.52.43:25000
Report Server 3:   72.159.94.36:25000
Report Server 4:   64.27.12.136:25000
Load Server 1:     64.27.12.136:25000
Load Server 2:     64.27.12.137:25000
Load Server 3:     209.169.52.44:25000
Load Server 4:     72.159.94.35:25000
Free Memory:       19506176
Time:              09:03 07/01/15
Zone:              Mountain
DST:               YES
GMT Time:          15:03 07/01/15
Eastern Time:      11:03 07/01/15
Time Running:      1468:37

RECEIVER STATISTICS
-----
PID(s):            0x0400
Carrier:           Status: Acquired
AGC:               8845
Pre-FEC Avg BER:   1
Eb/No:             10.56
Bad Blocks:        7
Continuity Errs:   0
LBand Freq:        1106575000
Adjusted Freq:     1106562500
Symbol Rate:       3910000
Puncture Rate:     3/4
Over Current Ev:   0
I2C Errors:        0
Lost Lock Ev:      0

DATA STATISTICS
-----
Control Address:   239.239.239.128
Control Port:      23456
Control Pkts:      26682564
MPEG IRQs:         422540297
Transp Pkts:       2478019952
Transp Pkt Errs:   8605
Transp Syn Errs:   0
Continuity Errs:   353
Data Queue:        0 of 2000132
Data Queue Max:    78396
Data Queue Ovfl:   0

STREAM STATISTICS
-----
Permed Streams:    6

AUDIO STATISTICS
-----
Playing Audio:     No
Audio IRQs:        73060454
Inet Buff Msecs:   1500
Sat Buff Msecs:    250

TARGET MAPPING SETTINGS
-----
TMAP1:             Stereo 1 (T1)
TMAP2:             Stereo 2 (T2)
TMAP3:             Mono 1 Left (T1L)
TMAP4:             Mono 1 Right (T1R)
TMAP5:             Mono 2 Left (T2L)
TMAP6:             Mono 2Right (T1R)
TMAP7:             Stereo 2 (T2)
TMAP7 Armed:       No

ETHERNET STATISTICS
-----
Connections:       1
IP Datagrams:      1918634
IP Fragments:      0

DRIVE STATISTICS
-----
Open Files:         0
Space Used:         2221Mb
Space Left:         74078Mb
```

## General Statistics:

- \* - Items that can be changed via the [front panel](#) and the [HTML Command Interface](#)
- ! - Items that can be changed via the [front panel](#), but should not be changed unless directed to by Amb-OS support technicians

**Firmware Ver:** Current firmware version of the operating system

**TID:** The AMR-100's TID number or serial number

**Processor Speed:** Processor Speed

**Bus Speed:** Speed of the data/address bus

**Ethernet Addr:** MAC address of the AMR-100

\***DHCP:** Shows whether the IP address is [dynamic](#) ("Yes") or [static](#) set ("No")

\***IP Address:** The network address of the AMR-100

\***Netmask:** The network mask

\***Gateway:** The address of the Internet gateway of the internal network

**!Report Servers (1-4):** The address:port of the AMB-OS uplink servers

**!Load Servers (1-4):** The address:port of the Internet backfill AMB-OS servers

**Free Memory:** The amount of unused internal memory

**Time:** Current local time (without seconds) and the date – it does not update automatically

\***Zone:** The selected time zone

\***DST:** [Daylight Saving Time](#) setting (active "Yes" or ignored "No")

**GMT Time:** Current [Greenwich Mean Time](#) and date

**Eastern Time (or local Time Zone):** Current local time and it reflects [DST](#) and date

**Time Running:** Number of hours the AMR-100 has been running

## GENERAL STATISTICS

```

-----
Firmware Ver:                2.28x
TID:                          2001000
Processor Speed:              600Mhz
Bus Speed:                     120Mhz
Ethernet Addr:                 000000000000
DHCP:                           No
IP Address:                    192.168.1.150
Netmask:                       255.255.255.0
Gateway:                        192.168.1.1
Report Server 1: 72.159.94.35:25000
Report Server 2: 209.169.52.43:25000
Report Server 3: 72.159.94.36:25000
Report Server 4: 64.27.12.136:25000
Load Server 1: 64.27.12.136:25000
Load Server 2: 64.27.12.137:25000
Load Server 3: 209.169.52.44:25000
Load Server 4: 72.159.94.35:25000
Free Memory:                   19506176
Time:                          09:03 07/01/15
Zone:                           Mountain
DST:                             YES
GMT Time:                       15:03 07/01/15
Eastern Time:                   11:03 07/01/15
Time Running:                  1468:37

```

## Receiver Statistics

**PID(s):** The Program Identification number of the carrier

**Carrier Status:** The state of the carrier. "Acquired" indicates the AMR-100 has locked on a valid RF carrier

**AGC:** The relative strength of the RF carrier – the higher the number the better

**Pre-FEC Avg BER:** The Average Bit Error Rate before applying [FEC \(Forward Error Correction\)](#)

**Eb/No:** The Energy per Bit above Noise – The quality of the data in the carrier

**Bad Blocks:** The number of data blocks that could not be corrected with [FEC \(Forward Error Correction\)](#). With a high AGC (strong carrier) and high [Eb/No](#), it should be a very small number. A high number would indicate the RF has problems because of interference, bad reception, poor peaking of the dish or faulty equipment like the LNB or cabling.

## RECEIVER STATISTICS

```

-----
PID(s):                        0x0400
Carrier Status:                 Acquired
AGC:                            8845
Pre-FEC Avg BER:                1
Eb/No:                          10.56
Bad Blocks:                      7
Continuity Errs:                 0
LBand Freq:                     1106575000
Adjusted Freq:                  1106562500
Symbol Rate:                    3910000
Puncture Rate:                  3/4
Over Current Ev:                 0
I2C Errors:                     0
Lost Lock Ev:                   0

```

**Continuity Errs:** The number of lost [MPEG](#) frames. This should correspond to the bad blocks count. The transponder that AMB-OS and the CRC use is a [DVB](#) compliant transponder and uses [MPEG](#) frames to transmit data.

**LBand Freq:** The frequency of the LNB output to the receiver.

**Adjusted Freq:** The frequency clock adjustment to keep the LBand frequency fixed. This may change as the LNB ages. With a new LNB, this should match the LBand frequency exactly.

**Symbol Rate:** The data rate of the carrier (roughly the same as the bit rate of the carrier) and it reflects the total amount of data on the CRC carrier, which includes the Wegener Unity® 4000 channels, the XDS data stream and the AMB-OS data stream.

**Puncture Rate:** The amount of [FEC \(Forward Error Correction\)](#) (redundant data) sent on the carrier to correct bad data blocks

**Over Current Ev:** The number of times or Events (Ev) the LNB drew too much current. Check the LNB if this number is not 0.

**I2C Errors (I squared C – I²C):** The number of errors the processor has. The AMR-100 will need to be sent back for repairs if this number is not 0.

**Lost Lock Ev:** The number of times or Events (Ev) the receiver lost its lock with the carrier. Any number other than 0 means the satellite dish may not be properly aligned. The spring and fall [sun transit outages](#) cause these events, because the carrier loses lock when the satellite comes directly between the antenna and the sun. If nothing has changed, then this should be 0.

## Data Statistics

\* - These can be changed via the front panel, but do so only when instructed to do so by Amb-OS support personal.

\***Control Address:** The address used to receive commands from the [HTML Interface](#).

\***Control Port:** The port used by the receiver to accept the commands from the [HTML Interface](#).

**Control Pkts (control packets):** The number of packets from received from the [HTML Interface](#).

**MPEG IRQs (MPEG Interrupt Requests):** The number of interrupt requests generated to process data from the transport stream.

**Transp Pkts (Transport Packets):** The number of packets received from the transport stream.

**Transp Pkt Errs (Transport Packet Errors):** The number of packet errors from the transport stream. This number should be low; however, [Sun Transit Outages](#) and severe weather can cause this to climb significantly. If this number increases, check the RF equipment. Most of the errors will be fixed by the [FEC \(Forward Error Correction\)](#).

**Transp Syn Errs (Transport Packet Synchronous Errors):** The number of packets without a valid header. This should be a low number.

**Continuity Errs:** The number of [MPEG](#) frames lost. It should correspond to the bad blocks count.

**Data Queue:** The size of the queue and is a fixed number. This is the temporary storage for data coming from the data stream.

**Data Queue Max:** The amount of valid data in the queue to be processed.

**Data Queue Ovf (Overflow):** The number of times data overflowed the data queue. This should always be 0.

### DATA STATISTICS

```
-----  
Control Address:      239.239.239.128  
Control Port:        23456  
Control Pkts:        26682564  
MPEG IRQs:           422540297  
Transp Pkts:         2478019952  
Transp Pkt Errs:     8605  
Transp Syn Errs:     0  
Continuity Errs:     353  
Data Queue:          0 of 2000132  
Data Queue Max:      78396  
Data Queue Ovf:      0
```

## Stream Statistics

**Permed Streams:** The number of streams, either live or from the Wegener Unity® 4000 system the receiver has permissions to air

### STREAM STATISTICS

```
-----  
Permed Streams: 6
```

This shows the number of live [stream permissions](#) (live programs or DVB streams from the Wegener Unity® 4000 system). The Amb-OS User Interface software lists exact number of live streams the AMR-100 will receive. Please see the Amb-OS User Interface manual for further details.

## Audio Statistics

**Playing Audio:** Reports whether audio is playing out a port. It is either “YES” (playing audio) or “NO” (not playing audio).

**Audio IRQs** (Interrupt Requests): The number of times the audio playback system requested an interrupt from the processor.

**Inet Buff Msecs:** The number of milliseconds the AMR-100 buffers audio from an Internet stream to reduce audio packet delays. This is set by Amb-OS support personnel.

**Sat Buff Msecs:** The number of milliseconds the AMR-100 buffers audio from an RF stream to reduce audio packet delays. This is set by Amb-OS support personnel.

### AUDIO STATISTICS

```
-----  
Playing Audio: No  
Audio IRQs: 86533901  
Inet Buff Msecs: 1500  
Sat Buff Msecs: 250
```

## Target Mapping

**TMAP#:** Shows the assigned port to a specific [Target Map](#) (TMAP).

**TMAP7:** Displays the assigned port. TMAP7 is reserved for [emergency or "one off"](#) broadcasts.

**TMAP7 Armed:** Shows whether the TMAP7 will be acknowledged by the AMR-100.

The description of [TMAP](#) specification is in the [Program Playback](#). To set the [TMAP](#) assignments, use the [front panel](#) or the [TMAP Command](#) under the [HTML Command Interface](#) section.

### TARGET MAPPING SETTINGS

```
-----  
TMAP1: Stereo 1 (T1)  
TMAP2: Stereo 2 (T2)  
TMAP3: Mono 1 Left (T1L)  
TMAP4: Mono 1 Right (T1R)  
TMAP5: Mono 2 Left (T2L)  
TMAP6: Mono 2 Right (T2R)  
TMAP7: Stereo 2 (T2)  
TMAP7 Armed: No
```

## Ethernet Statistics

**Connections:** The number of units connected to the Ethernet port on the receiver.

**IP Datagrams:** The number of IP packets coming to the AMR-100.

**IP Fragments:** The number of incomplete packets in the network and coming to the AMR-100

### ETHERNET STATISTICS

```
-----  
Connections: 1  
IP Datagrams: 86533901  
IP Fragments: 1500
```

## Drive Statistics

**Open Files:** The number of files open for playback on the AMR-100. “0” indicates no audio is playing.

**Space Used:** The amount of used drive space.

**Space Left:** The amount of free space on the drive. The AMR-100 does its own file maintenance to automatically delete files to preserve disk space; therefore, the disk cannot be filled. In the highly unlikely event that the drive becomes full, programs will not longer be received by the AMR-100. Again, this is virtually impossible.

### DRIVE STATISTICS

```
-----  
Open Files: 0  
Space Used: 86533901  
Space Left: 1500
```



## Scheduled Event List

This page shows the scheduled events in the [playlist](#) (see [Playlist](#) section). Without a [playlist](#), this has no entries as shown below.

### AmbOS Event Listing

Action	Time	Source	Target	Level	Ramp	Output	State
--------	------	--------	--------	-------	------	--------	-------

### Column Headings

**Action:** The type of event

**Time:** The date and time when the event happens in local time

**Source:** The program to be played (displayed as the Amb-OS system name)

**Target:** The output [target](#) used for playback

**Level:** The amount of attenuation applied to the program on playback

“0dB” means no attenuation will be applied and “-inf” means no output.

**Ramp:** The amount of fade listed in the [playlist](#) for the program

It shows how many milliseconds of fade the program will have at the end of the file.

**Output:** The [output closure](#) assigned to the program when it plays

A number is the [output closure](#) used. “1” means the output closure #1 will be used. When blank, the [output closure](#) is not used.

**State:** The current state of the [output closure](#) before issuing the command to the [output closure](#)

If no [output closure](#) is used, this is blank.

The following shows the programs for the current day and they begin playing 23:32:30 local time as determined by the [time zone](#) setting.

## General Diagnostics

- [System Statistics](#)
- [Scheduled Event List](#)
- [Trigger Event Lists](#)
- [Command Interface](#)

## Satellite Diagnostics

- [1-Minute Receiver Summary](#)
- [15-Minute Receiver Summary](#)

### Amb-OS Event Listing

Files being watched for changes
BTTB_BT5_08-15-16_01-01.MP2
FOTF_ODY5_08-15-16_01-03.MP2
FOTF_ODY5_08-15-16_02-03.MP2
FOTF_ODY5_08-15-16_03-03.MP2
ICRM_BTGW_08-15-16_01-01.MP2

Action	Time	Source	Target	Start Level	End Level	Ramp	Output	State
OPEN	8/15/2016 05:29:59:000000	BTTB_BT5_08-15-16_01-01.MP2	/Stereo1	-inf	-inf	0ms		
PLAY	8/15/2016 05:30:00:000000	BTTB_BT5_08-15-16_01-01.MP2	/Stereo1	0dB	0dB	0ms		
OUTPUT_ON	8/15/2016 05:30:00:000000	BTTB_BT5_08-15-16_01-01.MP2					1	OFF
OUTPUT_OFF	8/15/2016 05:30:01:000000	BTTB_BT5_08-15-16_01-01.MP2					1	ON
STOP	8/15/2016 05:54:59:520000	BTTB_BT5_08-15-16_01-01.MP2	/Stereo1	-inf	-inf	0ms		
OPEN	8/15/2016 10:59:59:000000	FOTF_ODY5_08-15-16_01-03.MP2	/Stereo2	-inf	-inf	0ms		
PLAY	8/15/2016 11:00:00:000000	FOTF_ODY5_08-15-16_01-03.MP2	/Stereo2	0dB	0dB	0ms		
OPEN	8/15/2016 11:02:26:216000	FOTF_ODY5_08-15-16_02-03.MP2	/Stereo2	-inf	-inf	0ms		
STOP	8/15/2016 11:02:27:216000	FOTF_ODY5_08-15-16_01-03.MP2	/Stereo2	-inf	-inf	0ms		
PLAY	8/15/2016 11:02:27:216000	FOTF_ODY5_08-15-16_02-03.MP2	/Stereo2	0dB	0dB	0ms		
OPEN	8/15/2016 11:16:00:800000	FOTF_ODY5_08-15-16_03-03.MP2	/Stereo2	-inf	-inf	0ms		
STOP	8/15/2016 11:16:01:800000	FOTF_ODY5_08-15-16_02-03.MP2	/Stereo2	-inf	-inf	0ms		
PLAY	8/15/2016 11:16:01:800000	FOTF_ODY5_08-15-16_03-03.MP2	/Stereo2	0dB	0dB	0ms		
STOP	8/15/2016 11:25:28:224000	FOTF_ODY5_08-15-16_03-03.MP2	/Stereo2	-inf	-inf	0ms		
OUTPUT_ON	8/15/2016 11:25:28:224000	FOTF_ODY5_08-15-16_03-03.MP2					2	OFF
OUTPUT_OFF	8/15/2016 11:25:29:224000	FOTF_ODY5_08-15-16_03-03.MP2					2	ON
OPEN	8/15/2016 15:05:59:000000	ICRM_BTGW_08-15-16_01-01.MP2	/Mono2R	-inf	-inf	0ms		
PLAY	8/15/2016 15:06:00:000000	ICRM_BTGW_08-15-16_01-01.MP2	/Mono2R	0dB	0dB	0ms		
STOP	8/15/2016 15:35:30:000000	ICRM_BTGW_08-15-16_01-01.MP2	/Mono2R	-inf	-inf	0ms		

The box at the top of the window shows the programs to be played. The AMR-100 monitors all programs in the [playlist](#) to update any programs. Even programs not on the AMR-100, but in a [playlist](#), are listed with the other programs.

Files being watched for changes
BTTB_BT5_08-15-16_01-01.MP2
FOTF_ODY5_08-15-16_01-03.MP2
FOTF_ODY5_08-15-16_02-03.MP2
FOTF_ODY5_08-15-16_03-03.MP2
ICRM_BTGW_08-15-16_01-01.MP2

Any program can be added with the [Stand Alone Playlist](#) editor regardless of program permissions. The [Amb-OS User Interface playlist](#) creator will not allow adding programs not sent to the local receiver.

**WARNING**

**Programs added to the [playlist](#) that are not sent to the AMR-100, are listed without any warnings.**

In the event a program changes or a problem exists with the delivery, check the RSS feed on [www.amb-os.com/rss.html](http://www.amb-os.com/rss.html) for an a news bulletin or call the help line (877-262-2728) to verify any issues with program transmissions. To subscribe to the RSS feed, go to [www.amb-os.com/rss.html](http://www.amb-os.com/rss.html).

### Action

The column labeled “Action” has every event that happens.

Every program has at least three entries:

**OPEN:** The AMR-100 opens the program file and reads the first block of data one second before the scheduled playback to ensure the program starts on time.

**PLAY:** Plays the program

**STOP:** The AMR-100 after playing the last block of data, the program stops.

Action	Time	Source	Target	Start Level	End Level	Ramp	Output	State
OPEN	8/15/2016 15:05:59:000000	ICRM_BTGW_08-15-16_01-01.MP2	/Mono2R	-inf	-inf	0ms		
PLAY	8/15/2016 15:06:00:000000	ICRM_BTGW_08-15-16_01-01.MP2	/Mono2R	0dB	0dB	0ms		
STOP	8/15/2016 15:35:30:000000	ICRM_BTGW_08-15-16_01-01.MP2	/Mono2R	-inf	-inf	0ms		

In the example above, the program has been scheduled to play at 15:06 so the AMR-100 opens the program at 15:05:59 to read the first block of data. Because the program is 29:30, it ends at 15:35:30.

The [output closures](#) have the action taken by the AMR-100. Each [output closure](#) action has two events. The only exception would be to not have the [playlist](#) reset the [output closure](#) when an [output closure](#) was held closed during playback.

Action	Time	Source	Target	Start Level	End Level	Ramp	Output	State
OUTPUT_ON	8/15/2016 05:30:00:000000	BTTB_BT5_08-15-16_01-01.MP2					1	OFF
OUTPUT_OFF	8/15/2016 05:30:01:000000	BTTB_BT5_08-15-16_01-01.MP2					1	ON

In the example above, [output closure](#) #1 pulses at the beginning of the program. The first entry shows the time the [output closure](#) closes and one second later it opens.

### State

This column shows the state of the output closure before the closure event happens.

Action	Time	Source	Target	Start Level	End Level	Ramp	Output	State
OUTPUT_ON	8/15/2016 05:30:00:000000	BTTB_BT5_08-15-16_01-01.MP2					1	OFF
OUTPUT_OFF	8/15/2016 05:30:01:000000	BTTB_BT5_08-15-16_01-01.MP2					1	ON

In the example above, [output closure](#) #1 is pulsed (closing for one second and then opening). When the [output closure](#) event closes (“On”) it shows the [output closure](#) was open (“OFF”). One second later when the [output closure](#) event opens (“Off”), the state was closed (“ON”).

## Trigger Event Lists

This page lists the events [triggered](#) by an [input closure](#) or [text command](#) sent via the [RS-232 serial port](#) or satellite. Local [triggers](#) use numbers 999 and below and program providers use numbers 1000 and above.

The page lists the [input closures](#) and [text commands](#) in numerical order as they are numbered in the [playlist](#). A maximum of 256 triggers can be used including the program provider triggers.

Clicking on an event shows the action the trigger produces, but not the event table until the trigger activates the event.

## Amb-OS AMR-100 SFT Receiver/Server

Trigger Event Lists

[Trigger 1](#)

[Trigger 1005](#)

**Trigger Listing**

Active all day

Trigger Input	Command
CHSTART	play
CHSTOP	stop

Action	Time	Source	Target	Level	Ramp	Output	State
--------	------	--------	--------	-------	------	--------	-------

**Trigger Listing**

Active all day

Trigger Input	Command
Input 1 ON	play
Input 4 ON	stop

Action	Time	Source	Target	Level	Ramp	Output	State
--------	------	--------	--------	-------	------	--------	-------

On the left, the [text command](#) “CHSTART” plays a program and “CHSTOP” stops the program from playing. On the right, [input closure](#) #1 plays a program and [input closure](#) #4 stops the program. Both have the event table empty, because the program has not started.

After the [trigger](#) activates the event, the event table populates and shows all the events associated with the program. It uses the same list headings as [scheduled event list](#).

**Trigger Listing**

Active all day

Trigger Input	Command
CHSTART	play
CHSTOP	stop

Action	Time	Source	Target	Start Level	End Level	Ramp	Output	State
PLAY	8/17/2016 20:45:10:310000	BTTB_BT5_08-18-16_01-01.MP2	/Stereo1	0dB	0dB	0ms		
OUTPUT ON	8/17/2016 20:45:10:310000	BTTB_BT5_08-18-16_01-01.MP2					1	OFF
OUTPUT OFF	8/17/2016 20:45:11:310000	BTTB_BT5_08-18-16_01-01.MP2					1	ON
STOP	8/17/2016 21:10:09:830000	BTTB_BT5_08-18-16_01-01.MP2	/Stereo1	-inf	-inf	0ms		

This program pulses the [output closure](#) at the beginning of the program. The “Time” column shows the time and date the program trigger happened (“Play” row) and then lists the [output closure](#) events and when the program will end.

The [column headings](#) are the same as the [schedule events list](#).

## Command Interface

### Amb-OS Command Interface

**NOTE: The command will be executed immediately upon clicking the Execute button.**

General Commands	
<b>REBOOT</b>	Reboots the system.
<b>RELAY # ON/OFF</b>	Sets the state of relays 1-6.
<b>RELAY var</b>	Activates the mapped relay named 'var'
<b>SET ZONE #</b>	Sets the zone (-4 to 20, 0=Pacific, 1=Mountain, 2=Central...).
<b>SET DST #</b>	Sets daylight saving time participation (0 or 1).
Network Commands	
<b>DHCP YES/NO</b>	Turns on or off the DHCP client
<b>NEWIP #####</b>	Changes the IP to a static address #####
<b>NEWNETMASK #####</b>	Changes the net mask to #####
<b>NEWGATEWAY #####</b>	Changes the gateway to #####
<b>WEBPORT #</b>	Changes the HTTP port for browser access
Audio Control Commands	
<b>AUDPLAY Source on Target(s)</b>	Auditions the source (file, PID, stream) on a target list. Example: AUDPLAY FILE.MP2 ON T1
<b>AUDSTOP</b>	Stops playback of the audition.
<b>AUDFADE</b>	Fades out and stops playback of the audition.
<b>ALLSTOP</b>	Immediately stops all audio playback.
<b>TSTOP Target</b>	Stops audio playback on a single target. Example: TSTOP T1
<b>TMAP# Target</b>	Sets TMAP1 through TMAP7 to the target. Example: TMAP3 T1L
<b>TMAP7ARM ON/OFF</b>	Sets the arming of TMAP7 for one-shot targeting.
<b>TONE ON/OFF</b>	Turns the internal tone generator on or off.

This page allows commands to be sent to the receiver. Type the command into the input window and press [ENTER] or click on “Execute” to send the command to the AMR-100. The case of the command does not matter unless it is a [text trigger](#) in a [playlist](#). The case must match the [text trigger](#).

**Example:** To reboot the AMR-100, type “reboot” in the command line window and then click on “Execute.” The window changes which echos the command and states the command was executed.

### Command Executed

Your command reboot has been executed.

The command interface has three groups of commands:

- [General Commands](#)
- [Network Commands](#)
- [Audio Control Commands](#)

[Text triggers](#) defined in a [playlist](#) can also be sent by the HTML Command Interface. The case of the [text trigger](#) has to be same as the defined trigger in the [playlist](#).

## General Commands

General Commands	
REBOOT	Reboots the system.
RELAY # ON/OFF	Sets the state of relays 1-6.
RELAY var	Activates the mapped relay named 'var'
SET ZONE #	Sets the zone (-4 to 20, 0=Pacific, 1=Mountain, 2=Central...).
SET DST #	Sets daylight saving time participation (0 or 1).

### REBOOT

This causes the system to [reboot](#). This duplicates pressing the [reset](#) switch on the back of the AMR-100.

Syntax: REBOOT

**WARNING**  
Rebooting will cause the receiver to quit playing audio.

### RELAY # ON/OFF

This closes the relay specified (#) in the command. This duplicates the [Relay Test Menu](#) on the [front panel](#).

**WARNING**  
Relays do not reset automatically and remain set until issuing the “RELAY # OFF” command.

The command “RELAY 1 ON” closes [relay](#) #1. This is extremely useful in testing [relays](#). Closing [relays](#) #5 and #6 should be used with extreme caution after completing the wiring to the AMR-100. If the [system alarm](#) has been wired and “RELAY 6 ON” is issued, the [alarm](#) will activate. Likewise, if the [clock synchronization](#) circuit has been wired and the command “RELAY 5 ON” is issued, the clocks will [sync](#) to the time the relay closed as described in the [Clock Interval](#) section.

Syntax: RELAY 1 ON or RELAY 1 OFF

### RELAY var

This sends a command to the [mapped relay](#) (see [Closure Map](#) section). The “var” are the mapped names in [Closure Map Table](#).

To verify the [relay connection](#) for relay #1 as [PILE](#) (Program End, Port 1 Left), send the command “RELAY PILE.” If [mapped](#) as a pulse, the [relay](#) closes for one second and then opens.

Syntax: RELAY PILE

**WARNING**  
If a relay map does not pulse a relay, it remains set until issuing the “RELAY # OFF” command.

## SET ZONE #

This sets the AMR-100 to any time zone. This duplicates the [front panel Time Zone](#) menu. It can be set to any time zone.

#	GMT (Zone)	#	GMT (Zone)	#	GMT (Zone)	#	GMT (Zone)	#	GMT (Zone)
3	-5 (Eastern)	-2	-10 (Hawaii)	18	+10	13	+5	8	GMT
2	-6 (Central)	-3	-11	17	+9	12	+4	7	-1
1	-7 (Mountain)	-4	-12	16	+8	11	+3	6	-2
0	-8 (Pacific)	20	+12	15	+7	10	+2	5	-3
-1	-9 (Alaska)	19	+11	14	+6	9	+1	4	-4 (Atlantic)

### NOTE

The time settings reflect standard time from [GMT](#) and do not reflect [Daylight Saving Time \(DST\)](#).

Only the number of the zone (# column above) can be used in the command and not the named zones (in parenthesis in the chart above). They only appear when using the [front panel Time Zone](#) menu.

The command cannot set the [Zmin](#) settings to set a [time zone](#) that is not a standard hour from [GMT](#). For example, to set the [time zone](#) for Newfoundland time, the [front panel](#) needs to be used to set the thirty minute offset. The Set Zone command can be used set the hours (“Set Zone 5”) and then use the [front panel](#) to set the [Zmin](#) to 30 for one half hour.

Syntax: SET ZONE 3

### WARNING

Once the [Zmin](#) settings is set, it stays set even changing time zones. The [Zmin](#) setting needs to be changed back to 0 if a time zone uses a standard hour setting.

## SET DST #

Sets the receiver to follow [Daylight Saving Time \(DST\)](#) or stay on Standard Time. This duplicates the [front panel Daylight Saving Time](#) menu.

Setting [DST](#) to “ON” automatically changes time by one hour during [Daylight Saving Time \(DST\)](#). For example, Eastern time changes from -5 GMT to -4 GMT during [Daylight Saving Time \(DST\)](#). In Hawaii, set [DST](#) to “0” or “NO” and the AMR-100 will remain -10 GMT even during [Daylight Saving Time \(DST\)](#).

0 = “OFF” Standard Time (No [DST](#)) – used for those who do not participate in [DST](#) (Arizona, Hawaii, some areas of Indiana and some U.S. territories). The time does not change when [DST](#) goes into effect.

1 = “ON” The AMR-100 changes the local time when [Daylight Saving Time \(DST\)](#) starts and back when it ends.

Syntax: SET DST 0 or SET DST 1

## Network Commands

### DHCP YES/NO

This turns [DHCP](#) “ON” or “OFF.”

“ON” = The AMR-

100’s [IP address](#) is

assigned automatically by the [DHCP](#) table in the router and it can change every time the AMR-100 reboots.

“OFF” = The AMR-100’s [IP address](#) has to be set manually through the [front panel](#) or the [NEWIP HTML Command Interface](#). This duplicates the [front panel](#) menu [DHCP](#).

Syntax: [DHCP ON](#) or [DHCP OFF](#)

Network Commands	
DHCP YES/NO	Turns on or off the DHCP client
NEWIP #.#.#.#	Changes the IP to a static address #.#.#.#
NEWNETMASK #.#.#.#	Changes the net mask to #.#.#.#
NEWGATEWAY #.#.#.#	Changes the gateway to #.#.#.#
WEBPORT #	Changes the HTTP port for browser access

### WARNING

Setting DHCP to “OFF” requires setting the AMR-100 [IP address](#) manually.

### NEWIP #.#.#.#

This changes the AMR-100’s [IP address](#). The new [IP address](#) must be changed in the [Amb-OS User Interface](#) and the browser needs the new [IP address](#). This duplicates the [front panel](#) menu [IP Address](#).

Syntax: [NEWIP 192.168.1.145](#)

### WARNING

Using the [HTML Command Interface](#) to either turn off DHCP (“[DHCP NO](#)”), which may change the [IP address](#) of the AMR-100, or change the [IP address](#) (“[NEWIP #.#.#.#](#)”) would require [retrieving](#) the new [IP address](#) and restarting the [HTML Interface](#) and changing the system settings in the [The Amb-OS User Interface](#) to reflect the [IP address](#).

### WARNING

When [DHCP](#) is set to “ON,” the [IP address](#) can be changed, but [DHCP](#) remains set to “ON.” When the AMR-100 reboots, [DHCP](#) will change the [IP address](#) to the [DHCP](#) setting.

### NEWNETMASK #.#.#.#

The [Netmask](#) filters communication from other subnets on the network. The default [netmask](#) is 255.255.255.0 and lets all devices from 192.168.1.0 to 192.168.1.255 to communicate. This duplicates the [front panel](#) menu [Netmask](#).

Syntax: [NEWNETMASK 255.255.255.0](#)

**NEWGATEWAY #.#.#.#.**

Sets the Internet gateway of the network. This is usually the address of the router or high-speed modem. The network administrator will be able to provide that information. This duplicates the [front panel](#) menu [Gateway](#).

Syntax: NEWGATEWAY 192.168.1.1

**WEBPORT #**

Sets the Web or HTTP port number used by HTML Interface. Normally, set this to 80, but at times an installation with more than one web interface device, another port may be needed. The other typical number is 8080. This duplicates the [front panel](#) menu [Web Port](#).

Syntax: WEBPORT 8080



## Audio Control Commands

Audio Control Commands	
AUDPLAY Source on Target(s)	Auditions the source (file, PID, stream) on a target list. Example: AUDPLAY FILE.MP2 ON T1
AUDSTOP	Stops playback of the audition.
AUDFADE	Fades out and stops playback of the audition.
ALLSTOP	Immediately stops all audio playback.
TSTOP Target	Stops audio playback on a single target. Example: TSTOP T1
TMAP# Target	Sets TMAP1 through TMAP7 to the target. Example: TMAP3 T1L
TMAP7ARM ON/OFF	Sets the arming of TMAP7 for one-shot targeting.
TOUR ON/OFF	Turns the internal tone generator on or off.

## AUDPLAY

Plays a program on a [target](#). Sending an “Audplay” command before the previous program finishes stops the first program and the second program starts even if using a different audio [target](#) for the second AUDPLAY command.

The AUDPLAY command needs the exact name of the program on the AMR-100. Program names can be seen at <http://www.amb-os.com/programs>. Use the designation on <http://www.amb-os.com/programs> (MMMM\_PPPP) and add the date (MM-DD-YY), the part number with the total number of parts (PN-TP), each one separated with an underscore (“\_”) and add the .MP2 extension.

**Amb-OS naming convention:** MMMM\_PPPP\_MM-DD-YY\_PN-TP.MP2

**Example** – Play the Haven of Rest daily program for June 10, 2016

HRMX\_HRM5\_06-10-16\_01-01.MP2

Ministry name is HRMX (MMMM)

Program name is HRM5 (PPPP)

The date is 06-10-16 (MM-DD-YY)

The part is 01-01 – a single part program – (PN-TP)

The MP2 extension (.MP2)

Programs with more than one part are listed on the [Amb-OS web site](#) with the number of parts after the ministry and program name (MMMM\_PPPP\_03pt). Only a single part of a multiple part program can be played at a time. To play the second segment of a program use, “IFLM\_PAT1\_06-04-16\_02-03.MP2” (part 02 of 03 parts).

AUDPLAY can be done through the [Amb-OS User Interface](#) by selecting a program and not having to know the exact name of the program.

Syntax AUDPLAY filename.mp2 ON target target

**Example:** AUDPLAY FOTF\_FOF5\_06-23-16\_01-01.MP2 ON T1

## **AUDSTOP**

Stops the program that was started by the [AUDPLAY](#) command.

Syntax: AUDSTOP

## **AUDFADE**

Fades out the program started by [AUDPLAY](#) in five seconds and stops the program.

Syntax: AUDFADE

## **ALLSTOP**

This command stops all audio on all ports regardless of how it was started. Normally, whatever starts the audio playing has to stop it. **Use this command with caution!**

Syntax: ALLSTOP

### **WARNING**

**ALLSTOP stops all programs on all [targets](#) and could take a program off the air! TSTOP stops a program on a specific [target](#) and will also take a program off the air!**

## **TSTOP**

This command stops a program on a specified [target](#). Like ALLSTOP, it stops a program playing regardless of what started it. **Use this command with caution!**

TSTOP can be used to stop a program on any [target](#). A program started as stereo on a [target](#) stops the stereo program when sending “TSTOP T1L” (left channel). If separate programs are playing on T1L and T1R, TSTOP can stop one or the other by specifying the appropriate target (T1L or T1R) and it leaves the other program playing.

Syntax: TSTOP T1

## **TMAP# Target**

This changes a [TMAP](#) to another [target](#). The [TMAP section](#) under the [system statistics](#) shows the current mapping on the AMR-100 receiver. Any of the six [TMAPs](#) (TMAP1 to TMAP6) can be assigned to any one of the six [targets](#):

T1 = Port 1 stereo

T1L = Port 1 mono – left side only

T1R = Port 1 mono – right side only

T2 = Port 2 stereo

T2L = Port 2 mono – left side only

T2R = Port 2 mono – right side only

None = No target – Removes all targets from the [TMAP](#): NO program would play if sent to that [TMAP target](#)

TMAP7 is for [emergency broadcasts or "one off"](#) programs and can be assigned to any of the six [targets](#).

The [TMAP](#) assignments can be changed from the [front panel](#).

Syntax: TMAP1 T1

TMAP6 NONE (nothing plays when sending a program to TMAP6)

## ***TMAP7ARM ON/OFF***

This command duplicates pressing and holding the [BACK] button on the [front panel](#) to arm the [emergency or "one off"](#) program function. The "\*" in the upper right of the front panel screen comes on when issuing "TMAPARM7 ON" command. "TMAPARM OFF" turns off the function and the "\*" on the front panel screen gets turned off.

Syntax: TMAP7ARM ON or TMAP7ARM OFF

## ***TONE***

This turns the internal tone generator "ON" or "OFF" for testing purposes. This duplicates the front panel [Audio Test](#) function.

Syntax: TONE ON  
TONE OFF

### **WARNING**

**Starting the Audio Test stops all programs currently playing.**

### **WARNING**

**Keep monitor levels turned down when using the Audio Test.**

## Satellite Diagnostics

The AMR-100 records various statistics about the health of the RF carrier. The AMR-100 creates two summary tables to assist in troubleshooting problems.

1. The 1-Minute Summary takes a snap shot every minute and records any errors in that minute. It has an entry for every minute, but has a shorter history.
2. The 15-Minute Summary takes a snap shot every 15 minutes and records any errors in that time frame. It has an entry for every 15 minutes and includes a longer history.

As the table grows, the oldest entry gets deleted as the newest entry gets written. There is no way to recover the older entries. However, the data goes back far enough to see any trends.

The following two illustrations show the two summary pages. Both report the same things, but the time of each varies in accordance to its page.

**AmbOS 1-MINUTE RECEIVER SUMMARY**

Time (Local)	Packets Processed	Multicast Datagrams	Bad Blocks	Continuity Errors	EbNo	Average BER	Lost Locks
11/21 03:50	11035	2512	0	0	10.96	1	0
11/21 03:49	11026	2513	0	0	10.90	1	0
11/21 03:48	11054	2513	0	0	10.93	0	0
11/21 03:47	11032	2514	0	0	11.14	1	0
11/21 03:46	11028	2513	0	0	11.60	0	0
11/21 03:45	11015	2512	0	0	11.28	0	0
11/21 03:44	11056	2513	0	0	10.83	1	0
11/21 03:43	11048	2513	0	0	10.96	1	0
11/21 03:42	11048	2513	0	0	10.99	1	0
11/21 03:41	11043	2512	0	0	10.89	1	0
11/21 03:40	11048	2513	0	0	10.83	1	0

**AmbOS 15-MINUTE RECEIVER SUMMARY**

Time (Local)	Packets Processed	Multicast Datagrams	Bad Blocks	Continuity Errors	EbNo	Average BER	Lost Locks
11/21 03:30	165627	37691	0	0	10.88	1	0
11/21 03:15	165457	37697	0	0	11.05	0	0
11/21 03:00	165533	37696	0	0	11.20	0	0
11/21 02:45	165228	37694	0	0	10.63	2	0
11/21 02:30	164871	37694	0	0	10.58	1	0
11/21 02:15	164849	37698	0	0	10.58	2	0
11/21 02:00	164798	37694	0	0	10.57	1	0
11/21 01:45	164591	37693	0	0	10.58	2	0

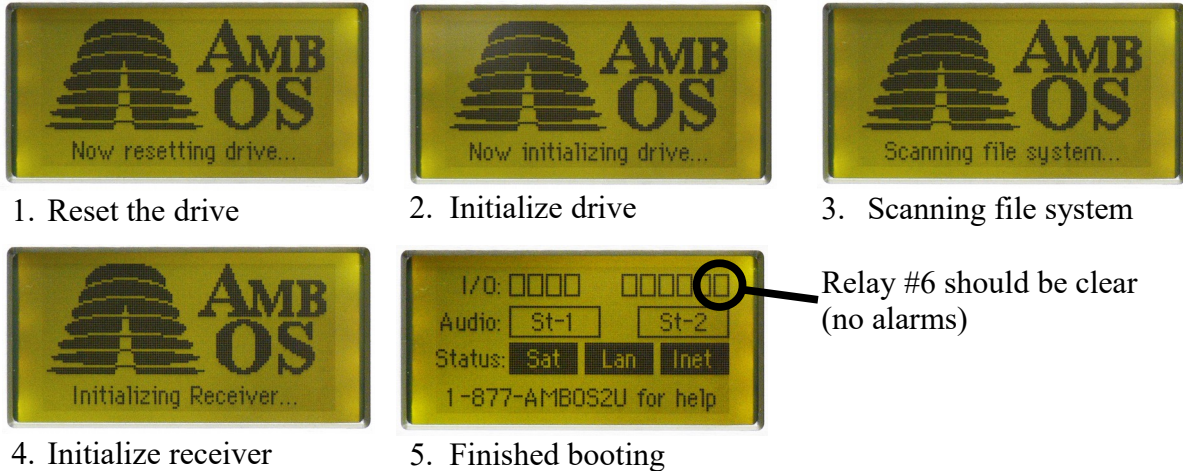
The columns have the same names:

- **Packets processed:** The number of data packets received by the AMR-100
- **Multicast Datagrams:** The number data packets received by the AMR-100 for live streams
- **Bad Blocks:** The number of blocks that could not be corrected by [Forward Error Correction \(FEC\)](#)
- **Continuity Errors:** The number of lost [MPEG](#) frames. This should correspond to the bad blocks count. The transponder used by AMB-OS and the CRC is a [DVB](#) compliant transponder and uses [MPEG](#) frames to transmit data.
- **EbNo:** This is the [Energy per Bit above Noise](#) and measures the quality of the data in the carrier and can be used as a relative indicator of the RF strength. However, a weaker RF carrier without much noise, can have a higher [Eb/No](#) than a stronger RF carrier with a lot of noise. Typically, a stronger carrier has less noise, thus, a higher [Eb/No](#) usually means a stronger carrier.
- **Average BER:** This is the Average Bit Error Rate before applying [FEC \(Forward Error Correction\)](#).
- **Lost Locks:** The number of times the receiver lost its lock with the carrier. If this happens, the dish may be poorly aligned, or something has interfered with the carrier (bad weather – rain or snow), terrestrial interference or during the spring and fall [sun transit outages](#) – sun fade).

# APPENDIX

## Boot Process

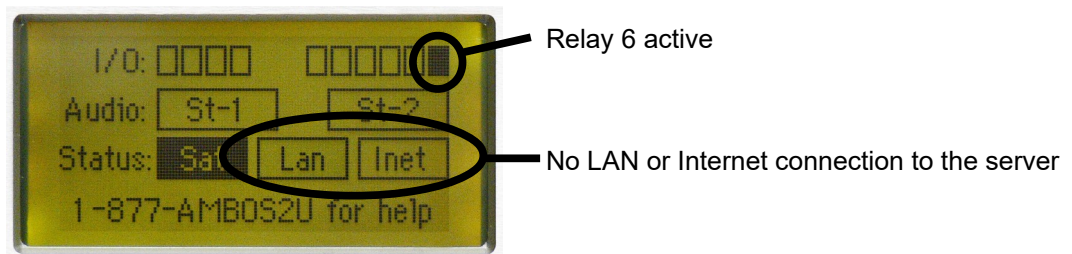
After the AMR-100 receives [power](#), it begins the startup process, which takes about twenty seconds.



If the receiver has been setup correctly, the Sat, Lan, and Inet boxes should be black and the other boxes should all be clear.

1. The Sat box means the [RF](#) is receiving the proper signal from the satellite.
2. The Lan box means the receiver is communicating with the local network.
3. The Inet box means the receiver is communicating with the uplink server.
4. With no audio playing the St-1 and St-2 should be clear.
5. The two boxes on the top far right ([relays #5](#) and [#6](#)) should be clear (no alarms).

If the AMR-100 could not connect to the network because the [Ethernet cable](#) was not connected before applying power or the [IP address](#) was incorrectly configured, the finished boot screen has [relay #6](#) dark and the Lan and Inet boxes clear.



## Error Conditions

See the [Troubleshooting Chart](#) in the [appendix](#) to troubleshoot errors.

### RF Error

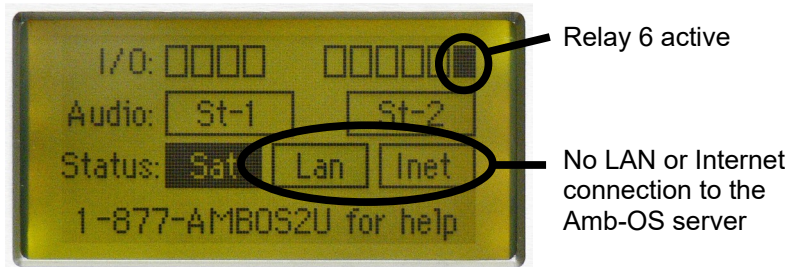
If the [RF cable](#) to the satellite dish is not connected or not functioning properly, but the [Ethernet cable](#) is connected, properly configured and connected to the Internet, [relay #6](#) will be active (dark) and the Sat box will be clear. If the [RF cable](#) has been connected, but it is still not active (dark), then either a problem exists with the cable or the LNB is not getting power. To verify the [RF connection](#), see the [RF installation](#) section. See “[No Sat](#)” in the [Troubleshooting Chart](#).



### Network Errors

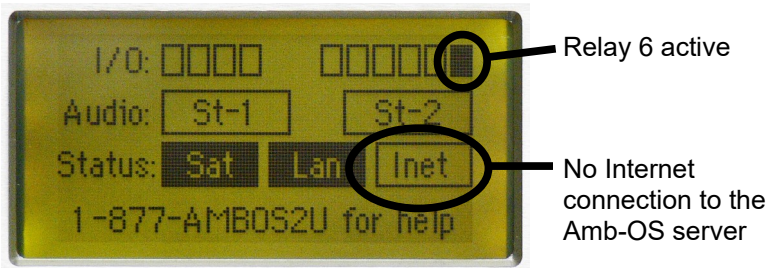
#### LAN Connection Fault

With a good RF connection and no internal network connection, only the Lan and Inet boxes will be clear and [relay #6](#) will be dark (indicating a network error). Because the Internet connection depends on the LAN connection, if no LAN connection exists, it is impossible to have the Internet connection to the Amb-OS server. Verify the [Ethernet](#) connection and the [IP settings](#). See “[No Lan](#)” in the [Troubleshooting Chart](#).



#### Internet Connection Fault

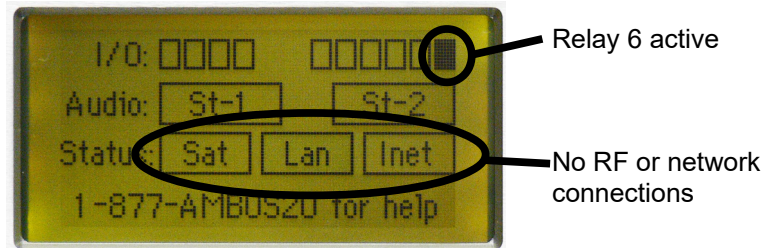
With a good RF connection and a local network connection, but no connection to the Amb-OS server or the Internet, the Inet box will be clear and [relay #6](#) will be dark (indicating an Internet error).



To properly set the [IP addresses](#) and [server ports](#) to connect to the Internet, see the [Installation](#) section and the [Ethernet](#) section. To set the [IP address](#) correctly, see the [IP addresses](#) section. Also, verify the network segment has an Internet connection. See “[No Inet](#)” in the [Troubleshooting Chart](#).

### RF and Network Error

After plugging in the [power](#) without the [RF](#) or [Ethernet](#) cables connected, [relay #6](#) will be active (dark) and all the status indicators will be clear. See the [Troubleshooting Chart](#).



## Troubleshooting Chart

The following chart shows basic problems and solutions. For troubleshooting trees go to the following web site. [www.amb-os.com/trouble.html](http://www.amb-os.com/trouble.html)

Symptom	Cause	Solution
No power indicator light	No power applied to the unit	<ol style="list-style-type: none"> <li>1. Verify the <a href="#">AC cable</a> is properly inserted</li> <li>2. Verify there is AC at the receptacle</li> <li>3. Verify the integrity of the <a href="#">AC cable</a></li> <li>4. If the power cable is properly inserted and there is AC, call the support line for technical assistance (1-877-262-6728)</li> </ol>
Front Panel Screen is blank	<p>If there is no power indicator, no power is coming to the unit</p> <p>If just the screen is blank, the display could be maladjusted or faulty</p>	<ol style="list-style-type: none"> <li>1. If there is no power indicator, verify AC power</li> <li>2. <a href="#">Reset the screen</a> to its default state</li> <li>3. Contact the Amb-OS support line for technical assistance (1-877-262-6728)</li> </ol>
No Sat indication	No RF present or carrier is not correct.	<ol style="list-style-type: none"> <li>1. Verify the <a href="#">RF connections</a></li> <li>2. Check to verify the LNB is powered</li> <li>3. Verify the LNB is working properly</li> <li>4. Verify the dish alignment and aiming</li> <li>5. Contact the Amb-OS support line for technical assistance (1-877-262-6728)</li> </ol>
No Lan indication	No connection to a local area network (LAN) – the Inet indicator will be also clear	<ol style="list-style-type: none"> <li>1. Verify the <a href="#">Ethernet cable</a> is plugged into the Ethernet port</li> <li>2. Verify that the <a href="#">Ethernet cable</a> is not a “cross over” type</li> <li>3. <a href="#">Verify</a> the <a href="#">IP address</a> settings on the receiver</li> <li>4. <a href="#">Verify</a> the <a href="#">network settings</a> on the router or switch</li> <li>5. Contact the Amb-OS support line for technical assistance (1-877-262-6728)</li> </ol>
No Inet indication	No connection to the uplink server.	<ol style="list-style-type: none"> <li>1. <a href="#">Verify</a> the <a href="#">IP address</a> setting for the server</li> <li>2. <a href="#">Verify</a> the <a href="#">server ports</a> are set correctly</li> <li>3. Make sure the receiver is connected to a <a href="#">network</a> with Internet access</li> <li>4. Contact the Amb-OS support line for technical assistance (1-877-262-6728)</li> </ol>

No files being received	Files are not being sent or there is no connectivity to the Internet or there is no RF connection	<ol style="list-style-type: none"> <li>1. If the Sat indicator is clear, check the No Sat indication</li> <li>2. If only the Inet indicator is clear, check the No 'Inet' indication</li> <li>3. If the Lan indicator is clear, check the No Lan Indication</li> <li>4. Verify the <a href="#">RF connection</a></li> <li>5. Verify program permissions for the AMR-100 at <a href="http://www.focussat.net/cgi-bin/ambos/permissions">www.focussat.net/cgi-bin/ambos/permissions</a></li> <li>6. Check the <a href="#">RSS</a> feed for program issues</li> <li>7. Contact the Amb-OS support line for technical assistance (1-877-262-6728)</li> </ol>
No Audio playback	Files are not on the receiver Audio improperly connected Audio not monitored correctly <a href="#">Playlist</a> is incorrect	<ol style="list-style-type: none"> <li>1. If the file is not on the receiver, check No files being received</li> <li>2. Check the <a href="#">audio connections</a></li> <li>3. Verify the proper <a href="#">audio port or target</a> is being used</li> <li>4. Verify the proper audio channel is being monitored</li> <li>5. Verify the proper <a href="#">audio target</a> is selected in the <a href="#">playlist</a> (see the <a href="#">Amb-OS User Interface Manual</a> or the <a href="#">Playlist Manual</a> available on <a href="http://www.amb-os.com/support.html">www.amb-os.com/support.html</a>)</li> <li>6. Contact the Amb-OS support line for technical assistance (1-877-262-6728)</li> </ol>
No file transfer	Files are not on the receiver Files are scheduled too soon for transfer Transfer directory does not exist	<ol style="list-style-type: none"> <li>1. If the file is not on the receiver, check No files being received</li> <li>2. Check the log on the <a href="#">Amb-OS User Interface</a> to verify the transfer is after the program received time (see the <a href="#">Amb-OS User Interface Manual</a> available on <a href="http://www.amb-os.com/support.html">www.amb-os.com/support.html</a>)</li> <li>3. Check the settings window of the Amb-OS User Interface to verify the target directory (see the <a href="#">Amb-OS User Interface Manual</a> available on <a href="http://www.amb-os.com/pdfs/AMR-Util_Manual.pdf">http://www.amb-os.com/pdfs/AMR-Util_Manual.pdf</a>)</li> <li>4. Contact the Amb-OS support line for technical assistance (1-877-262-6728)</li> </ol>



## Resetting the AMR-100I

### Reset the AMR-100I

Sometimes it is necessary to reset the AMR-100. This can be done three ways.

1. Remove and replace the [AC cord](#) on the AMR-100 (not preferred)
2. Press the [reset switch](#) on the back of the AMR-100 (preferred)
3. From the [HTML Command Interface](#), issue the “[REBOOT](#)” commands (preferred)

The preferred methods to reboot the AMR-100 is to press the [reset switch](#) on the back of the AMR-100 or execute the “[REBOOT](#)” command from the [HTML Command Interface](#). These methods retain the logs when rebooting.

Removing power deletes all logs and can make troubleshooting the AMR-100 more time consuming. Only use this method as a last resort.

### Resetting the receiver's display to its default setting

At times it may be necessary to reset the AMR-100 to the factory settings. If the display contrast setting (see [LCD Settings](#) section) made the display unreadable, the AMR-100 must be reset.

**WARNING**  
**Resetting the AMR-100 deletes all logs and stops the audio playback until the AMR-100 has finished booting.**

The [IP settings](#) do not get changed with a hard reset.

To do a hard reset use the following procedure.

1. Unplug the receiver
2. Hold [ENTER] while plugging in the receiver
3. Release the [ENTER] after the splash screen becomes visible

### Checking Network Settings

Press [ENTER] on the front panel of the AMR-100 to display the serial number and [IP address](#). The Serial No: and [IP Addr:](#) of the local AMR-100 will be different from the example.

#### Static IP Address:

Press [ENTER] to display the setup screen. The [IP address](#) is the third entry.

#### Dynamic IP Address:

1. Press [ENTER] to display the setup screen. The third line displays: IP Addr: [DHCP](#).
2. Press [ENTER] again.
3. Press the [DOWN] arrow to highlight [IP Addr: DHCP](#).
4. Press [ENTER] again to display the [IP address](#).

Record these numbers to verify or enter them into the receiver information dialog box.

Setup	Date
Firmware:	2.36
Serial No:	2001000
IP Addr:	192.168.1.150
Clock Interval	

Static IP address displayed

Setup	Date
Firmware:	2.36
Serial No:	2001000
IP Addr:	DHCP
Clock Interval	


Setup	Date
MAC	XXXXXXXXXXXX
Alarm	Output 6
DHCP	Yes
IP Addr	192.168.1.150

DHCP displays

## Permission Portal

To request program permissions, go to the [Amb-OS Permissions Portal](http://www.focussat.net/cgi-bin/ambos/permissions).  
(<http://www.focussat.net/cgi-bin/ambos/permissions>).

### Amb-OS Permissions - Login page



Enter your Amb-OS receiver serial number and password to enter the permissions page. If you do not have a password, or forgot it, enter your serial number and press "Email me a password".

**Receiver serial number**

**Password**

For help, call 1-877-AMBOS2U.

**To find your receiver's serial number, use any of the following:**

- If you are running the User Interface software, look in the System info menu
- If you know the receiver's IP address, type that into your browser, click on System Statistics, and note the TID number
- Press the Enter button (once) on the receiver front panel

### NOTE

The TID number in the [System Statistics](#) in the AMR-100 [HTML Interface](#) is the serial number of the AMR-100.

## Logging Into the Site

Enter the AMR-100's [serial number](#) and enter the password.

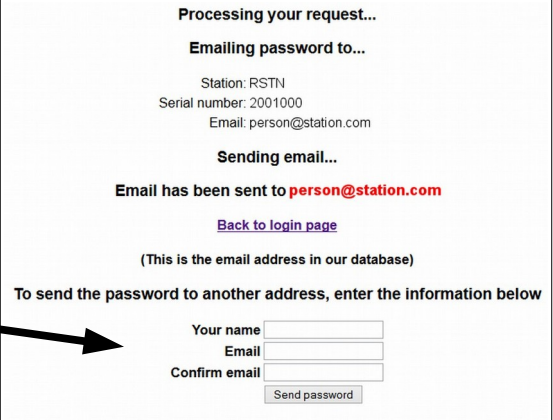
To get the serial number:

- Use the [HTML Interface](#) and click on [System Statistics](#)
- The AMB-OS User Interface has the serial number in the [System Statistics](#) under [General Diagnostics](#) and it is the TID number.
- From the [front panel](#) of the AMR-100, press the [ENTER] button once on the AMR-100 if a static [IP address](#) is used. When using [DHCP](#), press [ENTER] twice and then the [DOWN] arrow to highlight IP Addr: [DHCP](#) and then press [ENTER].

To retrieve a lost or forgotten password, enter in the AMR-100's serial number and click on "Email me a password." The Amb-OS system has one or two emails associated the AMR-100 and it sends the password to the addresses. If a password does not arrive call the help line at (877) 262-6728 or (877) AMB-OS2U to find out the email address associated with the AMR-100.

After clicking "Email me a password," the following page appears. Another email address can be entered to receive the password.

If the AMR-100 does not have an entry in the Amb-OS server, the "Permission Portal" displays a message that serial number or the station could not be found. If that happens and the serial number is correct, call the toll free help line at (877) 262-6728 or (877) AMB-OS2U.



Processing your request...

**Emailing password to...**

Station: RSTN  
Serial number: 2001000  
Email: person@station.com

**Sending email...**

Email has been sent to **person@station.com**

[Back to login page](#)

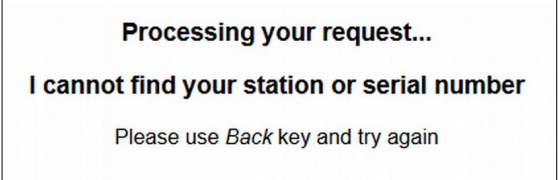
(This is the email address in our database)

To send the password to another address, enter the information below

Your name

Email

Confirm email



**Processing your request...**

**I cannot find your station or serial number**

Please use *Back* key and try again

Managing permissions for Amb-OS receiver SN 2001000

(Ministry guide at bottom)

Available Programs

Select programs to add  
(pgms in green are pending)

- AGLX Daily Light for Daily Living Daily
- AGLX Living in the Light (Weekly + promo)
- AIMG Answers with Ken Ham
- APRT Public Square Daily (2:00)
- APRT Public Square Short Weekend (4:30)
- APRT Public Square Weekend
- APRT Public Square Weekend Promo
- ASLS A 60 Second Look At Sports (1:00)
- BDMX BDM Indiana News Minute
- BDMX BDM MO Jeff City Update
- BDMX BDM Wisconsin Family Minute
- BGEA Decision Minute
- BGEA Decision Minute CANADA
- BGEA Minuto Decisivo (BGEA Spanish 1:00)
- BGEA Momentos de Decision (BGEA Spanish 14:30)
- BGEA Momentos de Decision PROMO (:30)
- BRNK Brinkman Adventures (Weekly 26:00) + Promo
- BTTB Back to the Bible Daily BORDER (28:00)
- BTTB Back to the Bible Daily CANADA
- BTTB Back to the Bible Weekend
- BTTB Back to the Bible Weekend CANADA
- BTTB Back to the Bible Weekly Overview Promo
- BTTB Bible Minute (stereo) CANADA
- BTTB La Biblia Dice (BTTB) Daily
- BTTB La Biblia Dice (BTTB) Weekend

(hold ctrl key to select more than one program)

Current Programs

Select programs to delete

- ASLS A Second Look At Sports (28:00)
- ASLS A Second Look At Sports PROMO
- BGEA Peace with God
- BGEA Peace with God Promo
- BTTB Back to the Bible Daily C/NC
- BTTB Bible Minute (stereo)
- FOTF Adventures in Odyssey Daily (st)
- FOTF Adventures in Odyssey Daily Promo
- FOTF Adventures in Odyssey Weekend (st) (3 Parts)
- FOTF Adventures in Odyssey Weekend Promo
- FOTF Everyday Relationships Mustcarry CM
- FOTF Everyday Relationships Promo
- FOTF Focus on the Family Daily CM
- FOTF Weekend Magazine CM (4 Parts)
- FOTF Weekend Magazine Promo
- FRCA Washington Watch Weekend
- GTYX Grace to You Daily CM
- GTYX Grace to You Daily PROMO
- IFLM Insight for Living Daily C/NC
- IFLM Insight for Living Daily Promo
- IFLM Paws and Tales (stereo) 3 Parts + Promo
- INST Amb-OS System
- ITM\_ In Touch Daily
- ITM\_ In Touch Weekly Promo (Coming Series)
- ITM\_ In Touch Weekly Promo (Current Series)

(hold ctrl key to select more than one program)

Request permissions

Clear all

Remove permissions

Clear all

Ministry guide

AGLX Angel Ministries	GTYX Grace to You	MOFF Christian Resource Center	TGPX The Garlow Perspective
AIMG Answers in Genesis	HARV Harvest Ministries	MSHX Mercy Ships	TLRX Campus Crusade
APRT American Policy Roundtable	HOPE The Barrick Family	NCCX National Christian Choir	TRNP Turning Point
ASLS A Second Look at Sports	HRMX Haven Ministries	NEWX Newlife Ministries	TUA_ The Urban Alternative
BDMX Bob Ditmer Media	ICRM Institute for Creation Research	PFMX Prison Fellowship	TWRM TWR
BGEA Billy Graham Evangelical Assn	IFLM Insight for Living	PTOV Pathway to Victory	TYND Tyndale House
BRNK Brinkman Family Ministry	ITM_ In Touch	PTTM Heartlight Ministries	UNSH Unshackled
BTTB Back to the Bible	JAFX Joni and Friends	PV31 Proverbs 31	UPWX Upwords
CFCX Crown Financial	LAMX OneCry	RBCM RBC Ministries	WAWX Word and the World
COMX Compassion Intl	LIBC Liberty Counsel	RBYD Reach Beyond	WITW Walk in the Word
CWKS Creative Works	LIFX Life Issues	RENW Renewal Radio	WMAG World Magazine
FAMX Family Life Today	LIGM Ligonier Ministries	RMOX God's Great Outdoors	WORZ Without Reservation
FOTF Focus on the Family	LWFM Love Worth Finding	ROHX Revive our Hearts	WSCX Wayne Shepherd Com
FPAX Fellowship for Performing Arts	LWOL Life Without Limbs	ROWX Revival Outside the Walls	WTIX Campus Crusade
FPRG Family Programs	MBLD Marriage Builders	RYWX Luis Palau Association	
FRCA Family Research Council	MNNX Mission Network	RZIM Ravi Zacharias Ministries	
GMCW Gail McWilliams	MODY Moody Church Media	TFLM Truth For Life	

The Amb-OS Permission Portal lists all available programs on the left, all the program with permissions for the AMR-100 on the right and the definitions of the ministries under the table.

## Requesting and deleting program permissions

Use the left window ([Available Programs](#)) to [request programs](#) and the right window ([Current Programs](#)) to [delete program](#) permissions.

### Contact Information

View and change the contact information by clicking on the “See contact info” button. An alternate name and email can be entered to receive the login information.

After clicking on “Save changes,” the “Permission Portal” page reflects the new email address at the top of the page.

To return to the permission page without making any changes, click on “Return to permission page (without changing data).”

**Contact info for receiver at Amb-OS Station SN 2001000**

Emails concerning permissions will be sent to Main email, and to Alt email if given

**Main email** person@station.com

**Alt contact**

**Alt email**

Alt contact now: Focus Satellite at newperson@station.com

**Welcome, Amb-OS Station**

**Managing permissions for Amb-OS receiver SN 2001000**

**NOTE**  
**Only one alternate contact and email address can be used.**

### Requesting Programs

To request a program, click on the desired program(s). Use the control key with the left mouse click to select multiple programs one at time. After selecting the program(s), click on “Request permissions.”

A request gets sent to the appropriate ministry and they will grant the AMR-100 permission to receive the program. Some ministries may want more information before granting program permissions.

Click on “Clear all” to clear the highlighted program(s). After selecting multiple programs, an individual program cannot be cleared. When clicking “Clear all,” all requested programs are cleared and the desired programs must be highlighted again.

**Available Programs**

Select programs to add  
(pgms in green are pending)

- ROHX Revive Our Hearts Weekly Overview Promo
- ROHX Seeking Him Daily
- ROWX Revival Outside the Walls Daily
- RYWX Reaching Your World Daily (1 min.)
- RYWX Reaching Your World Daily (2 min.)
- RYWX Reaching Your World weekly PROMO
- RZIM Just Thinking Daily CANADA
- RZIM Just a Thought Daily (1:00)
- RZIM Let My People Think Weekly CANADA
- TFLM Truth For Life Daily (25:00)**
- TFLM Truth For Life Daily CANADA**
- TFLM Truth For Life Daily PROMO**
- TFLM Truth For Life Weekend (25:00)**
- TFLM Truth For Life Weekend CANADA
- TFLM Truth For Life Weekend Overview PROMO
- TFLM Truth For Life Weekend PROMO**
- TGPX The Garlow Perspective Daily
- TGPX The Garlow Perspective Special PROMO
- TLRX The Light House Report Daily 1:00
- TLRX The Light House Report Daily 2:00
- TRNP Momento Decisivo Daily
- TRNP Route 66
- TRNP Turning Point Daily BORDER
- TRNP Turning Point Daily CANADA
- TRNP Turning Point Daily PROMO BORDER

(hold *ctrl* key to select more than one program)

## Deleting Programs

The process to delete a program permission is the same as [requesting permissions](#). Highlight the program(s) that will no longer be used. To select multiple programs, use the control key with the left mouse click. After selecting the program(s) to be deleted, click on “Remove permissions.”

**WARNING**  
Program permissions are removed immediately when clicking on “Remove permissions” and cannot be undone.

If a program was deleted accidentally, it has to be requested again using the [Request permissions](#) on the left side of the portal page.

Click on “Clear all” to clear the highlighted program(s).

After selecting multiple programs, an individual program cannot be cleared. When clicking “Clear all,” all requested programs are cleared and the desired programs must be highlighted again.

**Current Programs**  
Select programs to **delete**

ITM\_ In Touch Weekly Promo (Current Series) ^

ITM\_ In Touch Weekly Promo (Generic)

LIGM Renewing Your Mind Daily (26:25)

LIGM Renewing Your Mind Daily Promo (:30)

LWFM Love Worth Finding CM

LWFM Love Worth Finding Promos (Monthly)

LWFM Treasures from the Word (LWF)

PFMX BreakPoint Daily

PFMX BreakPoint Daily CM

PFMX BreakPoint This Week

PFMX BreakPoint This Week Promo

RBCM Discover the Word (stereo)

RBCM Discover the Word Promo

RBCM Our Daily Bread - 2 min (st)

RBCM Our Daily Bread - 5 min (st)

RBCM Sports Spectrum Promo 30 sec

RBCM Sports Spectrum Promo 60 sec

RBCM Sports Spectrum Weekend

**RZIM Just Thinking Daily**

RZIM Let My People Think Weekly

RZIM Let My People Think Weekly Promo

**TRNP Turning Point Daily**

**TRNP Turning Point Daily PROMO**

WITW Walk in the Word - 1 Part

WITW Walk in the Word Weekly Promo v

(hold *ctrl* key to select more than one program)

**NOTE**  
When deleting program permissions, be sure to include the associated program permissions like the promo and other versions.

Some programs have additional versions associated with the main program and those permissions should also be deleted. For example, Focus on the Family also has a state only version (SO), a C3 or C4 version and combination versions (C/NC/B or C/NC).

## Definitions

**Daylight Saving Time** – The practice of changing the time during the summer by one hour to have more daylight during waking hours. DST begins on the 2<sup>nd</sup> Sunday in March and ends on the 1<sup>st</sup> Sunday in November. Hawaii, most of Arizona, some counties in Indiana and some U. S. territories (American Samoa, Guam, Puerto Rico and the Virgin Islands) do not observe DST. In Arizona, the Navajo Indian territories observe DST. [www.nist.gov/physlab/div847/localtime.cfm](http://www.nist.gov/physlab/div847/localtime.cfm)

**DHCP or Dynamic Host Configuration Protocol** – A system of automatically assigning [IP addresses](#) to devices on a network to avoid conflicts of having more than one computer having the same [IP address](#). See also [Dynamic IP Address](#).

**DSL or Digital Subscriber Line** – A method of providing high-speed access to the Internet through a telephone line.

**DST** – See [Daylight Saving Time](#)

**DVB or Digital Video Broadcast** – The standard for digital broadcasts on satellite [www.dvb.org](http://www.dvb.org). See also [MP2](#).

**Dynamic IP Address** – The IP address gets set automatically by the network router. The IP address can change if the router reassigns addresses. The AMR-100 defaults to [DHCP](#) set to “On.” To keep the [IP address](#) from changing use a [Static IP Address](#).

**Eb/No** – Energy per bit above the noise in the carrier. This is the ratio between the carrier and interference or noise. A low RF carrier can have a higher Eb/No if very little interference exists. Likewise, a strong RF carrier with a lot of interference could have a low Eb/No. Typically, the lower the RF level, the more noise exists, which means a lower Eb/No reading. Thus, a correlation can be deduced by the Eb/No reading.

**FEC** – See [Forward Error Correction](#).

**Forward Error Correction** – The amount of extra data sent with the original data to be able to correct any errors in the data during transmission. Typical rates are 1/2 and 3/4, but there are several other rates. The 1/2 rate means for every bit transmitted, two bits are sent. This reduces the number of errors, but greatly increases the size of the carrier and more power is required. With a strong carrier and a larger dish, the error correcting bits can be reduced. A 3/4 rate, sending an extra bit for every three bits, works for a strong carrier and larger dishes at the receive site. Amb-OS uses a C-Band carrier and a minimum dish size of three meters. With these parameters, a 3/4 rate can be used that reduces the carrier size and still have enough correction to be highly reliable. The CRC, Moody and Amb-OS carrier, therefore, use 3/4 FEC.

**GMT** – See [Greenwich Mean Time](#)

**Greenwich Mean Time** – The time measured at the Greenwich Meridian Line at the Royal Observatory in Greenwich, Great Britain. While Great Britain observes [DST](#), GMT does not. [www.greenwichmeantime.com](http://www.greenwichmeantime.com)

**HTML or Hyper Text Markup Language** – This is the standard language used for web pages. A browser translates the text page to the graphical representation displayed by the computer.

**IP Address or Internet Protocol Address** – Assigns a unique number to a device on a network. No devices can have the same IP address in a given network.

**MAC Address** – Media Access Control address. This uniquely identifies a network interface device to communicate on the physical network segment. IEEE 802 network technologies use MAC addresses on Ethernet and Wi-Fi networks to identify each device on the network. Every Internet device as a unique MAC address.

**MP2** – A standard of video compression used in [DVB \(Digital Video Broadcast\)](#), DVD disks and professional audio. This has fewer issues with multiple compression steps, because it has far less transcoding anomalies and retains its quality. This makes it better for professional audio applications. It is MPEG-1 Layer 2.

**MP3** – A standard of audio compression designed to improve compression and retain quality audio. It is used primarily for personal audio and is subject to severe transcoding anomalies. It is MPEG-1 Layer 3.

**MPEG or Motion Picture Engineers Group** – This is the body that creates the data standards for audio and video compression. File formats sometimes shorten this to MPG ([www.mpeg.org](http://www.mpeg.org)).

**MPG** – See [MPEG](#)

**Multicast** – An Ethernet stream that can be captured by more than just one device on a network.

**Netmask** – The [IP address](#) filter used to restrict network communication between different subnets. The normal netmask (255.255.255.0) means only devices with first three digits the same can communicate. Thus only computers with 192.168.1.XXX will communicate with each other. Devices with a different set of numbers (192.168.2.XXX) will communicate with those devices and not with the other devices (192.168.1.XXX). A netmask of 255.255.0.0 lets all devices communicate with the same digits in the first two positions.

**PID or Program ID or Identifier** – The unique ID of the program used by a receiver on a standard [DVB carrier](#).

**Static IP Address** – The [IP address](#) of a device is set to fixed address. In the AMR-100, when [DHCP](#) is set to “No.” The [IP address](#) does not change unless manually set. The [IP address](#) must be set to be compatible with the subnet of the local network with the [Netmask](#) setting. It also means that a [DHCP](#) device could get the same [IP address](#) or another device could be manually set to the same [IP address](#). See [Dynamic IP Address](#).

**Sun Transit Outage (Sun Fade)** – This happens when a geostationary satellite lines up in front of the sun – an eclipse of the sun by the satellite. Just before the spring equinox (late February to mid March) and just after the fall equinox (late September to mid October), the satellite ends up directly in front of the sun and dish points directly at the sun. The solar radiation of the sun overpowers the RF carrier of the satellite and the signal is lost. To see the dates of the Sun Transit Outage for the Amb-OS satellite (SES-2, 87° W), use the CR-Tech sun outage calculator at <http://www.crtech.org/geo/sunoutage.php>. The page lists the CRC/Amb-OS satellite as GE3 87°; however, the satellite has been renamed to SES-2.

**Targets** – The [port](#) that outputs the audio. It is referred to as the [physical connector](#) the decoded audio is sent or targeted to play. The [targets](#) refer directly to the [output ports](#). T1 (Target 1) equates to the analog output port 1.

**Triggers** – [Input closures](#) or [text commands](#) that cause the receiver to initiate an action. A [trigger](#) may cause a program to start playing or stop playing.