



Setting the Tx clock on a Dual Digital Voice card

Application Note AN312
Revision v1.2
October 2015



AN312 Setting clocks on the Digital Voice card

1 Overview

This Application Note explains how you can setup the Digital Voice card (p/n 68155) to use an external clock source as the transmit clock.

This Application Note assumes you are familiar with configuring Vocality equipment and have a knowledge of configuring and using the Digital Voice cards.

2 Hardware configuration

Vocality V150 or V200 with one or more Digital Voice Cards.

3 Software configuration

Digital Voice cards may need to derive clock from the equipment connected to the E1/T1 port, such as a PABX or PSTN. In this case we need to drive GC1 or GC2 from the external line/device, with the E1/T1 configured to use GC1/GC2 as its clock source. The solution is to lock the reference clock GC2, say, to an external source. Reference clock GC2 will be setup to use Digital Voice card port X as its primary reference and port Y as its secondary reference, as shown in Figure 1. In this way, irrespective of which port is active, GC2 will always be locked to the external PABX or other equipment connected to this card.

Note: GC1 is used to clock the rest of the node as is our convention.

	PRIMARY	BACKUP	TERTIARY
GC1 SOURCE TYPE:	Data	Internal	Internal
SOURCE CLOCK:	0:1 Rxc	-	-
GC2 SOURCE TYPE:	E1/T1/J1	E1/T1/J1	Internal
SOURCE CLOCK:	2:x	2:y	-

Figure 1 Clocking menu showing GC2 sourced from Port X & Y

You now need to setup the Digital Voice card with parameter 'TX CLK SRC' set to Int (internal) and parameter 'PLL REF' set to GC2 as shown in Figure 2.



INTERFACE

✓ Validate Validated changes unsaved Save Validated Changes Cancel Changes

OPERATING MODE:	Switched ▾
INTERFACE:	<input checked="" type="radio"/> E1 <input type="radio"/> T1
PRESENTATION:	<input checked="" type="radio"/> TE <input type="radio"/> NT
TX CLK SRC:	<input checked="" type="radio"/> Int <input type="radio"/> Rxc
PLL REF:	GC2 ▾
IDLE CODE:	11010101
CRC4:	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
INT TERM:	120 Ohm ▾
LAYER 2:	<input type="radio"/> Master <input checked="" type="radio"/> Slave
PROTOCOL:	ETSI(DSS1) ▾
VOICE BEARER CAP:	<input checked="" type="radio"/> Speech <input type="radio"/> 3k1Audio
ALGORITHM:	G.729A 8K ▾
SILENCE SUPP:	<input checked="" type="radio"/> Off <input type="radio"/> On
RESERVED BW:	8000
CLI:	Automap ▾
CLI PREFIX:	
CAUSE MAPPING:	Off ▾

Figure 2 Digital Voice menu showing correct settings for external clocking.

When setup in this way, the data transmitted on this Digital Voice interface will be clocked out using GC2, which is in turn locked to whichever of the two interfaces X or Y is active. Correct timing will therefore be maintained between transmitted and received data. As an example, any analogue voice ports connecting to this E1/T1 can derive from the same GC2 clock that the E1/T1 is driving.

4 Testing

You can use the **Diagnostics > Clock Status** menu to see which external interface has been chosen as the reference for GC2.

The **Diagnostics > Slots > Slot n > Digital Voice** menu can be used to check for an error free link.

5 About Application Notes

Application Notes are intended as a supplement to, rather than a substitute for, your User Manual. Should you have queries which are not answered by our current documentation, your local Vocality support team would be happy to hear from you.

E-mail support@vocality.com.