



## R2 Signaling Tones

This chapter describes the R2 signaling tones generated and detected by the MFCR2 transceiver cards, and the R2 pulse code modulation (PCM) 2-bit line signaling transmitted and received by E1 spans.

### Forward and Backward R2 Signaling Tones

Table 2-1 through Table 2-3 provide R2 signaling information based on ITU Q.441 as it applies specifically to the Singapore telephone network.

*Table 2-1 R2 Signaling Group I Forward Signals*

Token Data Field	Designation	Frequencies	Meaning
1	G-I-1	1380 + 1500 Hz	Digit 1
2	G-I-2	1380 + 1620 Hz	Digit 2
3	G-I-3	1500 + 1620 Hz	Digit 3
4	G-I-4	1380 + 1740 Hz	Digit 4
5	G-I-5	1500 + 1740 Hz	Digit 5
6	G-I-6	1620 + 1740 Hz	Digit 6
7	G-I-7	1380 + 1860 Hz	Digit 7
8	G-I-8	1500 + 1860 Hz	Digit 8
9	G-I-9	1620 + 1860 Hz	Digit 9
10	G-I-10	1740 + 1860 Hz	Digit 0
11	G-I-11	1380 + 1980 Hz	Access to operator End of identification Send report
12	G-I-12	1500 + 1980 Hz	Request not accepted End of identification Send report
13	G-I-13	1620 + 1980 Hz	Not applicable
14	G-I-14	1749 + 1980 Hz	Not applicable
15	G-I-15	1860 + 1980 Hz	End of identification Send report

**Table 2-2 R2 Signaling Group A Backward Signals**

Token Data Field	Designation	Frequencies	Meanings
1	A-1	1140 + 1020 Hz	Send next digit (n + 1) of BNUM
2	A-2	1140 + 900 Hz	Send first digit of BNUM
3	A-3	1020 + 900 Hz	Send category and change over to reception of Group B signals
4	A-4	1140 + 780 Hz	National network congestion
5	A-5	1020 + 780 Hz	Not used
6	A-6	900 + 780 Hz	Send category and change over to ANUM <sup>1</sup>
7	A-7	1140 + 660 Hz	Send tariff
8	A-8	1020 + 660 Hz	Send digit (n – 1) of BNUM
9	A-9	900 + 660 Hz	Send digit (n – 2) of BNUM
10	A-10	780 + 660 Hz	Not applicable
11	A-11	1140 + 540 Hz	Not applicable
12	A-12	1020 + 540 Hz	Not applicable
13	A-13	900 + 540 Hz	Not applicable
14	A-14	780 + 540 Hz	Not applicable
15	A-15	660 + 540 Hz	Not applicable

1. First A-6 is an instruction to send category signal. Second A-6 is an instruction to send ANUM signal.

**Table 2-3 R2 Signaling Group B Backward Signals**

Token Data Field	Designation	Frequencies	Meaning
1	B-1	1140 + 1020 Hz	Subscriber free Charge
2	B-2	1140 + 900 Hz	Subscriber busy
3	B-3	1020 + 900 Hz	Need rerouting
4	B-4	1140 + 780 Hz	Congestion
5	B-5	1020 + 780 Hz	Subscriber free No charge
6	B-6	900 + 780 Hz	Party release
7	B-7	1140 + 660 Hz	Unallocated number
8	B-8	1020 + 660 Hz	Subscriber line is out of order

*Table 2-3 R2 Signaling Group B Backward Signals (continued)*

Token Data Field	Designation	Frequencies	Meaning
9	B-9	900 + 660 Hz	—
10	B-10	780 + 660 Hz	
11	B-11	1140 + 540 Hz	
12	B-12	1020 + 540 Hz	
13	B-13	900 + 540 Hz	
14	B-14	780 + 540 Hz	
15	B-15	660 + 540 Hz	

